With the Medical Officer of Health's Compliments.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE

CITY OF CARDIFF,

FOR THE YEAR 1905.

No. 27451

CARDIFF:
WESTERN MAIL, LIMITED.
1906

ANNUAL REPORT

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FOR THE YEAR 1905.

EDWARD WALFORD, M.D. (Durh.), D.P.H. (Camb.),
MEDICAL OFFICER OF HEALTH,
CITY AND PORT SANITARY DISTRICT OF CARDIFF.

Printed by Order of the Sanitary Authority.

CARDIFF:
WESTERN MAIL, LIMITED.

1906.

CITY OF CARDIFF.

Health and Port Sanitary Committee.

Lord Mayor:

ALDERMAN ROBERT HUGHES, J.P. (DEPUTY-CHAIRMAN).

Chairman:

ALDERMAN T. WINDSOR JACOBS, J.P.

ALDERMAN P. W. CAREY, J.P.
,, JOHN JENKINS, M.P., J.P.
COUNCILLOR W. S. CROSSMAN, J.P.
,, LEWIS MORGAN.
,, JOHN CHAPPELL.
,, JAS. ROBINSON.

COUNCILLOR F. G. L. DAVIS.
,, R. J. SMITH.
,, W. H. RENWICK, J.P.
,, JOSEPH STANFIELD.
,, JABEZ A. JONES.
,, W. JENKINS.

CITY OF CARDIFF.

Medical Officer of Health's Department.

Medical Officer of Health:
EDWARD WALFORD, M.D., D.P.H.

Chief Inspector of Nuisances:
D. VAUGHAN.

District Inspectors:

T. W. WARREN.*
S. EVANS.*
F. GLOVER.*
W. FISHER.*
J. STRANGE.*
S. JEFFERY.*

Inspectors of Infectious Diseases:

GEO. THOMAS.*
A. F. MALE.*

Assistant Inspector of Infectious Diseases and Clerk:
T. CHANT.*

Inspector of Lodging Houses:
J. W. HOLDEN.*

Inspector of Dairies and Milkshops, and under Sale of Food and Drugs Acts:
A. J. GREEN.

Inspector under Shop Hours Acts, and Inspector of Workshops:
J. ASHMAN.*

Inspector of Cowsheds, and of Meat and other Foods:
G. M. McGREGOR.*†

Woman Inspector:
MISS A. HOYLE.*‡

Disinfectors at Disinfecting Station:

W. THOMAS.
W. WEBSTER.

Disinfector:
F. DAVEY.

Clerk:
W. H. ALDERMAN.

* Cert. Roy. San. Inst. † Cert. Meat Insp.
‡ Cert. Central Midwives Board.

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CITY OF CARDIFF.

TOWN HALL,
CARDIFF,
MAY, 1906.

TO THE CHAIRMAN AND MEMBERS OF
THE HEALTH AND PORT SANITARY COMMITTEE.

GENTLEMEN,

I have the honour of submitting to you my Report for the year 1905, made in accordance with Article 18 (Section 14) of the Local Government Board's Order of March, 1891, which specifies the information to be contained in the Annual Report of the Medical Officer of Health, as follows :—

"He shall make an annual report to the Sanitary Authority, up to the end of December "in each year, comprising a summary of the action taken, or which he has advised the Sanitary Authority "to take, during the year for preventing the spread of disease, and an account of the sanitary state "of his district generally at the end of the year. The report shall also contain an account of the inquiries "which he has made as to conditions injurous to health existing in the district, and of the "proceedings in which he has taken part or advised under any Statute, so far as such proceedings "relate to those conditions; and also an account of the supervision exercised by him, or on his advice, "for sanitary purposes over places and houses that the Sanitary Authority have power to regulate, "with the nature and results of any proceedings which may have been so required and taken in respect "of the same during the year. The report shall also record the action taken by him, or on his advice, "during the year in regard to offensive trades, to dairies, cowsheds, and milk shops, and to factories "and workshops.

"The report shall also contain tabular statements (on forms to be supplied by us, or to the "like effect) of the sickness and mortality within the district, classified according to diseases, ages, "and localities."

Under Section 132 of the Factory and Workshop Act, 1901, the Medical Officer of Health is also required to report annually on the administration of this Act in workshops and workplaces, and to send a copy of his annual report, or so much of it as deals with this subject, to the Secretary of State. The report should also include an account of the action with respect to factories, workshops, and workplaces taken under the Public Health Acts, as well as under the Factory and Workshop Act, 1901, and should contain a record of any certificates of suitability which have been granted by the Sanitary Authority during the year with respect to underground bakehouses in use at the passing of this Act.

In a memorandum issued by Mr. W. H. Power, C.B., the Medical Officer of the Local Government Board, dated October, 1904, the subjects concerning which the Board desire to obtain information are enumerated as follows :—

(1) Physical features and general character of the district.

(2) House accommodation, especially for the working classes; its adequacy and fitness for habitation; sufficiency of open space about houses, and cleanliness of surroundings.

(3) Sewerage and drainage: its sufficiency in all parts of the district. Condition of sewers and house drains. Method or methods of disposal of sewage. Localities where improvements are needed.

(4) Excrement disposal: system in vogue; defects, if any.

(5) Removal and disposal of house refuse; whether by public scavenger or occupiers; frequency and method.

(6) Water supply of the district or its several parts: its source (from public service or otherwise), nature (river water, well water, upland water, &c.), sufficiency, wholesomeness, and freedom (by special treatment or otherwise) from risks of pollution.

(7) Places over which the Council have supervision, *e.g.*, lodging houses, slaughter houses, dairies, cowsheds and milk shops, bakehouses, factories and workshops, and offensive trades.

(8) Nuisances: proceedings for their abatement; any remaining unabated.

(9) Methods of dealing with infectious diseases: notification, isolation hospital accommodation, and its sufficiency; disinfection.

In addition to the above the report will contain statistical returns relating to the mortality and sickness in the district during past years, and during the year under consideration.

PHYSICAL FEATURES OF DISTRICT.—An account of the geology of the District was inserted in the report for the year 1903, it will therefore be unnecessary to repeat in detail the information upon this subject given therein.

The City of Cardiff comprises 6,373 acres of land and inland water, exclusive of foreshore and tidal water, and is situated upon impervious strata, consisting for the most part of new red marl; resting upon this formation are the more superficial deposits of river gravel, more or less saturated with water. A gradual rise in the gravel takes place towards the north, so as to attain a level of nearly 40 feet above Ordnance Datum in Queen Street and the Newport Road, and 50 feet at Cathays, where, resting on the red marl, it forms a deposit to a depth varying from 8 to 20 feet of good building land, upon which the greater part of the north-east side of the town is constructed. The part of the town situated on the West of the River Taff is, in the northern or Canton district, on an alluvial deposit of clay, sand and gravel; the southern, or Grangetown ward being on the estuarine mud—a stiff blue clay of marine origin, which forms also the soil in the neighbourhood of the Docks and South Splott. This low-lying part of the town is now protected from the sea and tidal waters by banks, and has in many parts been raised by the deposit of made soil composed of ashes and house refuse collected by the public scavengers. The southern part of the town therefore consists of alluvial land at a very slight elevation above the ordinary sea level near the mouths of the Rivers Rhymney, Taff, and Ely.

The Rhymney and Ely, at the points at which they enter the Bristol Channel, forming respectively the eastern and western limits of the City; the Taff flowing in a southerly direction forms a natural division of the town into east and west, each having a separate drainage system.

The area of the City is distributed in Registration Sub-districts as follows:—East Cardiff, 481 acres, Central Cardiff, 3832 acres, and West Cardiff, 2,060 acres; and into ten Municipal Wards, containing the civil parishes of Canton, Roath, St. John, and St. Mary.

Cardiff is well provided with parks and open spaces, forming admirable recreation grounds and breathing spaces for the inhabitants of the crowded parts of the town. Those places, which belong to the public and are under the control of the Cardiff Corporation, comprise a total area of over 300 acres, as follows:—

	Acreage, Exclusive of Roads. Acres	R.	P.
Roath Park (part of)	103	0	0
Victoria Park	19	2	36
Canton Park	6	1	36
Loudoun Square	1	1	37
Howard Gardens	1	0	36
Adamsdown Square	0	1	26
Plasturton Gardens	0	3	0
Despenser ,, ...	0	3	19
Clare ,, ...	0	0	39½
Moorland ,, ...	1	2	13
Grangetown ,, ...	3	0	14
Llanbleddian ,, ...	0	0	37
Ruthin ,, ...	0	0	27
Senghenydd ,, (North)	0	1	6
,, ,, (South)	0	0	12½
Windsor Esplanade Gardens	0	1	37
Roath Village Green	0	0	28
Roath Open Space	3	0	0
Splott Recreation Ground	18	0	0
Llandaff Fields	70	0	0
Cathays Park	60	0	0
Allen's Bank Crescent Open Space	0	1	16
Grangetown Recreation Ground	9	2	0
Total	301	0	20

In addition to the above named open spaces the public has, through the generosity of the owners, free access to the following parks and fields :—

	A.	R.	P.
Sophia Gardens..	41	3	0
Sir David's Field	9	0	0
Cardiff Arms Park	21	2	0

HOUSE ACCOMMODATION.—The following Table gives the number of houses within each Municipal Ward in the City of Cardiff, as shown by the enumeration made in June, 1905, by the Inspectors in the Department of the Medical Officer of Health.

TABLE I.

WARDS.	Area in Acres.	Houses. Inhabited.	Vacant.	Building.	Total.	POPULATION.
Central	473	1,904	439	—	2,343	11,043
South	519	1,855	91	—	1,946	10,759
Cathays	369	3,663	66	45	3,774	21,245
Adamsdown	1,570	2,120	128	—	2,248	12,296
Riverside	313	3,091	121	—	3,212	17,927
Canton	449	4,094	111	53	4,258	23,745
Grangetown	1,905	3,393	121	—	3,514	19,679
Roath	766	2,767	79	34	2,880	16,048
Park	533	4,451	70	47	4,568	25,815
Splott	1,454	2,859	90	55	3,004	16,582
Totals	8,351	30,197	1,316	234	31,747	175,139

TABLE II.

Taken from the Census returns—shows the number of inhabited houses and population in Registration Sub-districts in 1891 and 1901 :—

Registration Sub-Districts.	Area in Statute Acres Land and Inland Water.	Inhabited Houses.		Enumerated Population.		Increase or Decrease of Population between 1891 and 1901.	
		1891.	1901.	1891.	1901.	Increase.	Decrease.
East Cardiff ..	481	5,838	9,297	35,294	52,585	17,291	—
Central Cardiff ..	3,832	8,102	8,835	53,824	54,316	492	—
West Cardiff	2,060	6,536	9,843	39,797	57,432	17,635	—

The following Table shows the density of the population, or the average number of persons per acre of ground, within the City :—

TABLE III.

*Density of Population during the past Ten Years.

Year.	Persons per Acre.
1896	22·9
1897	23·5
1898	24·1
1899	24·7
1900	25·3
1901	25·9
1902	26·5
1903	27·0
1904	27·6
1905	28·1

* Calculated on the basis of the revised population, and on area of 6,373 acres.

From an inspection of the district made in June, 1905, it was found that there were 1,316 vacant houses, and that 234 were in the process of building, there is, therefore, at the present time no lack of house accommodation in the town. Large block tenemented artizans dwellings, so objectionable on account of the overcrowding on a limited area, do not exist in Cardiff. Most of the working class families occupy separate dwellings, with an open space in the back and front, and sub-let one or two rooms to lodgers or other small families. Private building companies have, in some quarters of the town, *i.e.*, Grangetown and Adamsdown, provided single tenement cottages, in which no lodgers are taken, at a rental of about 5/- per week. These houses provide excellent accommodation, containing usually four rooms in each house, and are seldom unoccupied for any length of time. The number of houses and shops built in the City in each year since 1894 is shown in the following Table :—

TABLE IV.

From	August,	1894	to	August,	1895	..	1,507
,,	,,	1895	,,	,,	1896	..	1,196
,,	,,	1896	,,	,,	1897	..	1,247
,,	,,	1897	,,	,,	1898	..	1,258
,,	,,	1898	,,	,,	1899	..	624
,,	,,	1899	,,	,,	1900	..	267
,,	,,	1900	,,	,,	1901	..	230
,,	,,	1901	,,	,,	1902	..	185
,,	,,	1902	,,	,,	1903	..	398
,,	,,	1903	,,	,,	1904	..	225
,,	,,	1904	,,	,,	1905	..	389

There are no large insanitary areas in the City which could be conveniently dealt with for the purposes of an improvement scheme under Part I. of the Housing of the Working Classes Act 1890, but a considerable number of houses have been closed as unfit for human habitation, under the provisions of Part II. of the Act. Amongst the dwellings which have been permanently closed (since 1890) either by a closing order, as provided by Sec. 32 of the Act, or by the voluntary action of the owner, after initial proceedings by the Sanitary Authority, may be mentioned :—Mill Lane Court, 34 houses in Stanley Street, 12 houses in Leckwith Road, Kettle Court, Evans' Court, Union Buildings, Sandon Court, Dalton Court, Rising Sun Court, Jones' Court (Womanby Street), The Tunnel (Queen Street), Temperance Terrace (Working Street), Queen's Place, Masons' Arms Court, Love Lane Court, Castle Court, Moulders' Arms Court, Bryant's Court, Matthews' Court, Stacey Court, Picton Cottages, Stag Terrace, Jenkins' Court, Gullivers' Court, Evans' Court, Jonathan's Court, Spring Garden Court and Hodges' Row.

Some difficulty occasionally occurred in the administration of this Act, as it was necessary in all cases, before applying to the court of summary jurisdiction for a closing order, to serve a notice upon the owner or occupier of the house to abate a nuisance and to place the premises in a good sanitary condition, although it was obvious that this notice could not be complied with. This difficulty has now been overcome by the passing of the Housing of the Working Classes Act, 1903, which amends the procedure for closing orders, and enables the Local Authority to apply for a closing order although such notice has not been served.

From the Table of House Inspection contained in this report, it will be seen that a large number of sanitary defects have been discovered by the Inspectors during the year. These were remedied for the most part either at the written request of the Inspector of Nuisances, or upon the service of a preliminary notice. In some few cases it was necessary to proceed for the abatement of the nuisance in accordance with the provisions of the Public Health Act.

The erection of new houses, together with the construction of their drainage, is under the control of the City Engineer and Surveyor. All such dwellings are constructed subject to the new Building Bye-laws, which came into force on the 21st March, 1900.

During the past year the attention of the Inspectors has been particularly directed to the older and more congested districts in the centre of the town, in which the housing accommodation is more unsatisfactory, and in which the evils consequent upon overcrowding are more likely to occur than in the newer districts towards the outskirts of the City, where the application of building bye-laws of recent date has secured ample width of streets, a fair amount of open space to each dwelling, and modern sanitary appliances.

In most large cities and towns the physical condition of the inhabitants of slums and congested areas is inferior to that of those living under more favourable conditions. The absence of sun-light, pure air, and suitable cleanliness affecting in a marked manner the younger portion of the community. The mortality at all ages, but particularly that of young children, being invariably higher in the insanitary areas, occupied almost entirely by the poor and ignorant.

An attempt has been made by the Registrar-General to determine the amount of overcrowding in the several cities and towns of the United Kingdom, and the Census returns for 1901 give an interesting series of figures showing the number of tenements of less than five rooms, and the number of persons occupying each class of tenement. It is assumed that overcrowding exists when the number of adult inmates exceeds two persons per room. This method, however, takes no account of the size of the room, a most important point when overcrowding is under consideration. The return, moreover, includes persons at all ages, and does not distinguish between adults and children. We may assume, therefore, that no very serious overcrowding exists unless the average number of persons at all ages exceeds three per room. Taking this standard, and tenements of one and two rooms, the following Table shows the percentage proportion of such tenements containing, respectively, more than three persons per room, in Cardiff and in a few large towns :—

Birmingham	..	1 room tenements	..	5·5%	more than	3	persons	per room.
,,	..	2 ,, ,,	..	3·6%	,,	,,	,,	
Bristol	..	1 ,, ,,	..	3·7%	,,	,,	,,	
,,	..	2 ,, ,,	..	0·9%	,,	,,	,,	
Newcastle-upon-Tyne	..	1 ,, ,,	..	33·9%	,,	,,	,,	
,, ,,	..	2 ,, ,,	..	16·0%	,,	,,	,,	
Liverpool	..	1 ,, ,,	..	11·0%	,,	,,	,,	
,,	..	2 ,, ,,	..	4·1%	,,	,,	,,	
Manchester	..	1 ,, ,,	..	6·1%	,,	,,	,,	
,,	..	2 ,, ,,	..	3·2%	,,	,,	,,	
Salford	..	1 ,, ,,	..	10·0%	,,	,,	,,	
,,	..	2 ,, ,,	..	5·3%	,,	,,	,,	
Durham	..	1 ,, ,,	..	24·0%	,,	,,	,,	
,,	..	2 ,, ,,	..	14·0%	,,	,,	,,	
Cardiff	..	1 ,, ,,	..	2·0%	,,	,,	,,	
,,	..	2 ,, ,,	..	0·6%	,,	,,	,,	

The following Table, taken from the Census return of 1901, shows the total tenements, and tenements of less than five rooms, distinguishing those occupied by various numbers of persons, in the City of Cardiff :—

TABLE V.

	Rooms in Tenements	Tenements of less than 5 rooms.	Persons per Tenement.									
			1	2	3	4	5	6	7	8	9	10 or more.
Total tenements, 33,824	1	720	448	197	60	11	3	1	—	—	—	—
	2	4,251	784	1,590	1,029	541	213	67	15	8	3	—
Tenements of less	3	2,121	81	442	509	402	329	177	108	50	17	6
than 5 rooms ..721	4	4,087	65	529	758	821	715	546	313	183	101	56

On referring to the map in the Appendix it will be seen that the density of the population (or persons per acre), and certain vital statistics, are given for each ward in the City. A special inspection was made during the year of that part of the town included within the area of the circle drawn on the map, with the object of comparing a district containing most of the old houses and the few remaining courts, in which the air space is deficient and in which overcrowding and insanitary conditions are apt to recur, with other districts in which these conditions do not exist to any extent. It will be seen that, notwithstanding the fact that this area includes portions of streets containing chiefly business premises, such as St. Mary Street, High Street, and Duke Street, the death-rate is high as compared with the rate for the whole town, and with the several municipal wards, and that the rate of infant mortality is higher than that of any single ward.

The following Table shows the amount of overcrowding in this area, the standard taken being that of the Registrar-General, *i.e.*, more than two persons per room.

TABLE VI.

Circle shown on Map.

Rooms in Tenements.	Total.	Percentage Overcrowded.
1	300	16·6
2	462	11·4
3	302	3·9
4	558	1·4

TABLE VII.

Streets in Circle showing Overcrowding.

STREET.	Number of Tenements containing Four Rooms or under.	Number Over-crowded.	Percentage Over-crowded.
Canal Street	28	4	14·2
David Street	14	2	14·2
East Terrace	17	1	5·8
Eisteddfod Street	45	4	8·8
Gough Street	36	7	19·4
Harris Court	5	2	40·0
Havelock Street	30	2	6·6
Little Frederick Street	33	3	9·0
Love Lane and Court	45	5	11·1
Mary Ann Street	23	2	8·6
Millicent Street	26	1	3·8
Raven Street	20	1	5·0
Roberts Court	7	1	14·2
Ruperra Street	10	1	10·0
Scott Street	47	1	2·1
Tredegar Street	28	3	1·0
Union Street	61	1	1·6
Wood Street	17	2	11·7
Crichton Place	11	1	9·0
Crichton Street	18	1	5·5
Herbert Street	34	7	20·5
John Street	19	1	5·2
Sophia Street	27	1	3·7
Adam Street	56	5	8·9
Buzzard Street	24	3	12·5
Davis Street	9	2	22·2
Duffryn Street	26	4	15·3
Garth Court	4	1	25·0
Garth Street	25	3	12·0
Godfrey Street	13	3	23·0
Ivor Street	29	3	10·3
Kyte Street	4	1	25·0
Morgan Street	24	2	8·3
North William Street	43	2	4·6
Pellett Street	20	1	5·0
Pendoylan Street	35	4	11·4
Roland Street	30	3	10·0
Sandon Place	56	8	14·2
Sandon Street	14	1	7·1
South Terrace	6	1	16·6
Taff Street	15	1	6·6
Thomas Court	6	1	16·6
Tyndall Street	70	16	22·8
Victoria Street	18	1	5·5
Windsor Road	23	2	8·6

WATER SUPPLY.—Cardiff is provided with an abundant and pure supply of soft water, obtained from the Taff Fawr Watershed of the Brecon Beacons. To Mr. C. H. Priestley, M.I.C.E. Waterworks Engineer, I am indebted for the following information. The gathering ground is situated to the north of the South Wales Coalfield, on the old red sandstone formation, about 35 miles from Cardiff. The watershed consists of 10,400 acres of mountain pasture land, and the water is conveyed by gravitation from the storage reservoirs down the Taff Valley to the reservoirs at Lisvane and Llanishen ; balancing reservoirs being placed at suitable situations along the line of the main conduit.

The capacity of the storage reservoirs is as follows :—

Beacons Storage Reservoir, Taff Fawr				..	345,000,000	gallons.
Cantreff	,,	,,	,,	..	323,000,000	,,
Llanishen	,,	,,	,,	..	317,000,000	,,
Lisvane	,,	,,	,,	..	80,000,000	,,

Besides the storage reservoirs, the works comprise several smaller service reservoirs and filter beds. The average annual rainfall at the Beacons Reservoir for the 21 years, 1885-1905, was 75·63 inches. The average consumption of water per head per day within the limits of the City during the year 1905, was 25 gallons.

Bacteriological examinations and chemical analyses of the Cardiff water supply are made at the Public Health Laboratory, and submitted to the Waterworks Committee at their monthly meetings. The results of these examinations, which are given below, show that the water is of excellent quality. The following extract is from my report for 1904. " On one or two occasions during the year the water in the Beacons Reservoir showed signs, from the bacteriological and chemical examinations, of a slight animal and vegetable pollution. On visiting this reservoir with Mr. Priestley and Dr. Schölberg, our Bacteriologist, it was found that the most obvious source of pollution was the Storey Arms Inn, situated within a short distance of the reservoir, the sanitary arrangements of which left much to be desired. I therefore called the attention of the Committee to the possible danger of this pollution, and advised that steps should be taken to prevent its continuance." At the meeting, on 4th March, 1904, at which my report was received, the Committee passed the following resolution :— *Resolved*, " That the Town Clerk be desired to communicate with the owner of the Storey Arms, with a view to purchasing the same." In my opinion it is very desirable that steps should be taken to prevent the possibility of any further pollution from this source, and it is difficult to see how this can be accomplished unless the Water Works Authority obtain possession or control of the house in question.

CARDIFF AND COUNTY PUBLIC HEALTH LABORATORY.

BACTERIOLOGICAL EXAMINATIONS OF SAMPLES OF CARDIFF WATER PUBLIC SUPPLY DURING 1905.

Source of Sample.	Date Collected.	Number of Organisms per c.c.		Relative Abundance of B. Coli.
		At 37° C.	At 20° C.	
	1905			
HEATH FILTERS ..	February 21st	8	8	B. Coli absent from 40 c.c.
	March 24th	2	84	,, ,, ,, ,,
	June 8th	less than 1	liquefied	,, ,, ,, ,,
	July 29th	16	18	,, ,, ,, ,,
	Sept. 18th	2	8	,, ,, ,, ,,
	Nov. 21st	less than 1	12	,, ,, ,, ,,
	Dec. 14th	less than 1	22	B. Coli present in 10 c.c., absent from 2·0 c.c.
RHUBINA	February 21st	6	4	Atypical B. Coli present in 10 c.c. Typical B. Coli absent from 40 c.c.
	March 24th	56	52	B. Coli absent from 40 c.c.
	June 8th	2	68	,, ,, ,,
	July 29th	2	2	,, ,, ,,
	Sept. 18th	—	4	,, ,, ,,
	Nov. 21st	36	68	B. Coli present in 10 c.c.
	Dec. 14th	108	48	B. Coli absent from 40 c.c.
LISVANE	February 21st	14	16	B. Coli absent from 40 c.c.
	March 24th	8	84	,, ,, ,,
	June 8th	2	liquefied	,, ,, ,,
	July 29th	256	88	B. Coli present in 2 c.c. Absent from 0·1 c.c. and 0·5 c.c.
	Sept. 18th	76	44	B. Coli present in 40 c.c.
	Nov. 21st	4	320	Atypical B. Coli in 10 c.c.
	Dec. 14th	6	72	Atypical B. Coli in 40 c.c.
LLANISHEN	February 21st	48	36	B. Coli absent from 40 c.c.
	March 24th	40	1,280	B. Coli present in 40 c.c.; Absent from 10 c.c.
	June 8th	2	12	B. Coli absent from 40 c.c.
	July 29th	8	26	Atypical B. Coli present in 2 c.c. Typical B. Coli absent from 40 c.c.
	Sept. 18th	56	16	B. Coli absent from 40 c.c.
	Nov. 21st	10	70	Not isolated.
	Dec. 14th	4	12	B. Coli in 10 c.c.; not in 2·0 c.c.
CANTREFF	February 21st	52	98	B. Coli in 0·1 c.c.
	March 24th	20	790	B. Coli in 0·1 c.c.
	June 7th	22	24	B. Coli in 10 c.c.
	July 27th	2	74	B. Coli in 40 c.c.; absent from 10 c.c.
	Sept. 20th	24	—	B. Coli in 2 c.c.; absent from 0·5 c.c.
	Nov. 21st	76	98	B. Coli in 10 c.c.
	Dec. 14th	28	256	B. Coli in 0·5 c.c.; absent from 0·1 c.c.
BEACONS	February 21st	108	108	B. Coli in 0·5 c.c.
	March 24th	30	1,520	Atypical B. Coli in 40 c.c.
	June 7th	2	liquefied	B. Coli in 10 c.c.
	July 28th	46	2,112	B. Coli in 0·1 c.c.
	Sept. 20th	320	—	B. Coli in 10 c.c.
	Nov. 21st	160	*60	B. Coli in 0·1 c.c.
	Dec. 14th	264	384	Atypical B. Coli in 2 c.c.; absent from 0·1 c.c. Typical B. Coli not isolated.

* Approximate.

The preceding tables contain the quantitative and qualitative results of the bacteriological examinations of the sources of water-supply for the City of Cardiff. The most important section of the bacteriological examination of a water supply is the *qualitative*, and is dealt with in the column recording the relative abundance of an organism of excremental origin, the *B. Coli Communis*. The Bacillus Coli has a wide distribution, so that in assessing the qualitative purity of a water from the bacterial point of view, it is necessary to determine not only the presence of this organism, but also the minimum quantity of water yielding this microbe. Since the year 1900, the Public Health Laboratory has passed as qualitatively satisfactory all waters which fail to yield the B. Coli in 40 c.c. of any given sample. By some this standard would be considered too lenient, and no doubt it is lenient if the purity of a water is to be judged from a single examination. But if a water consistently reaches this standard, it can hardly be suspected of *frequent* variations below the standard. The Heath Filters sample transgressed the standard of purity on *one* occasion during 1905, the Rhubina sample *twice*, the Lisvane sample *four times*, the Llanishen sample *three times*. The Cantreff and Beacons samples are in a totally different category. These two storage reservoirs were the subject of a special report drawn up by the Medical Officer of Health in the first quarter of 1904. As long as the conditions which determine the contamination of these reservoirs persist, so long will the potential danger of a specific contamination threaten the water-supply of the City of Cardiff.

H. A. SCHÖLBERG, M.B., D.P.H.

CHEMICAL ANALYSES OF SAMPLES OF CARDIFF WATER.

All Results are Stated in parts per 100,000.

Sample.	Date Collected.	Appearance. (2 feet layer).	Reaction.	Hardness.		Chlorine.	Ammonia.		Nitrogen as Nitrates.	Oxygen absorbed, 4 hours, 80° F.	Poisonous Metals.	Microscopical Examination of Sediment.
				Total.	Permanent		Free.	Albuminoid.				
Heath Filter ...	1906. 21st March	Yellowish Green. Clear.	Alkaline	3·2°	2·9°	·75	·0008	·0038	No appreciable trace.	·102	Nil.	Appreciable amount vegetable débris and algae. A few animalculae.
Rhubina Filter ...	21st March	Yellowish Green. Clear.	Alkaline	3·2°	2·95°	·75	·0008	·0040	No appreciable trace.	·104	Nil.	Small amount vegetable débris. Animalculae rare.

J. H. SUGDEN, M.Sc. (Vict.)., F.I.C.

MEAT INSPECTION.—The inspection of meat and other articles of food has been carried on as usual during the year. As all the slaughtering within the limits of the City is done in the Public Abattoirs belonging to the Corporation, it is comparatively easy to exercise an efficient inspection of meat, and to detect conditions which render it unfit for food before it is exposed for sale.

Under these circumstances, when unsound meat is discovered and is voluntarily surrendered by the owner, no proceedings are taken under Sections 116 and 117 of the Public Health Act, 1875, and no order for destruction is in such cases made by the magistrates, but the meat is in every instance examined by the Medical Officer of Health, and destroyed under the supervision of the Inspector of the Sanitary Authority.

Mr. C. Moir, M.R.C.V.S., Veterinary Surgeon to the Corporation, who acted as the Chief Inspector of Meat, resigned his appointment during the year, and Mr. P. G. Mullane, M.R.C.V.S., has been appointed as his successor. By arrangement between the Health Committee and the Property and Markets Committee, Mr. N. Rees, the Superintendent of the Roath Abattoirs, and four of his Assistants, are appointed to assist in the inspection of meat at the Public Slaughter Houses. A special Inspector, Mr. G. M. McGregor, who was formerly a butcher, acts as Inspector of Foods in Shops.

In each case of suspected tuberculosis or other disease, in any carcase, specimens of the morbid deposit are forwarded to the Public Health Laboratory for examination by Dr. Schölberg.

The following Table gives the amount of meat, in pounds, found by the Medical Officer of Health to be unfit for food, and destroyed either with the consent or by an order of a magistrate, in each year during the period 1896—1905.

Year.	Meat.
1896	3,896 lbs.
1897	10,824 ,,
1898	9,929 ,,
1899	14,205 ,,
1900	21,217 ,,
1901	33,696 ,,
1902	43,675 ,,
1903	41,710 ,,
1904	41,606 ,,
1905	41,212 ,,

During the year 1905 the number of animals slaughtered in the Public Slaughter Houses in the City was as follows :—

	Roath Abattoir.	Canton Abattoir.
Beasts	5,686	1,001
Sheep	39,602	5,318
Calves	3,934	210
Pigs	20,854	3,953
Total	70,076	10,482

UNSOUND MEAT SEIZED OR SURRENDERED.

Place of Seizure.	Number of Carcases.	Number Condemned by Magistrates.	Number Destroyed by arrangement with Owner.	Total Weight in lbs.
Roath Slaughter House	74	—	74	22,504
Canton	10	—	10	3,355
Total	84	—	84	25,859

The nature of the diseases detected in each case was as follows :—

Tuberculosis	37 beasts.	Dropsy	2 sheep.
,, ...	19 pigs.	Jaundice	1 beast.
,, ...	1 calf.	Pleurisy	1 pig.
Injuries	20 sheep.	Swine Fever.	3 pigs.

OTHER ARTICLES OF FOOD SEIZED OR SURRENDERED.

Place of Seizure.	Description of Articles Seized.	Condemned by Magistrate	Destroyed by arrangement with owner.	Total Weight in lbs.
Ice House	10 pieces of beef	..	1	740
	2 hams	..	1	24
	5 boxes of fish	..	1	840
Shops	7 pieces of beef	..	1	191
	1 piece of mutton	..	1	50
	4 pieces of pork	1	..	244
	5 boxes of fish	..	1	74
	80 tins of fish	..	1	169
	9 tins of condensed milk	..	1	18
	14 pieces of sausage	1	..	20
	3 hams	..	1	30
	38 tins of fruit	..	1	114
Stores	96 cases of preserved beef	..	1	4,992
	7 tins of corned beef	..	1	42
	Cask of pigs feet	..	1	224
	40 boxes of fish	..	1	1,154
	12 sides and 20 pieces of bacon	..	1	832
	114 boxes of tomatoes	..	1	1,814
	12 boxes of oranges	..	1	1,344
	8 barrels of pears	..	1	896
Railway Station ..	17 boxes of fish	..	1	1,214
	1 box of rabbits	..	1	94
Central Market ..	10 pieces of beef	1	..	191
	2 breasts, 2 necks, 2 lungs, 2 hearts ..	..	1	30
	1 sheep's head, lung, heart, and spleen..	..	1	12
	Total	3	22	15,353

As most of the meat dealt with as unfit for food is condemned in consequence of tubercular deposits on the carcase or in the organs, it may be as well to enclose a copy of a circular letter from the Local Government Board, and to point out that the procedure in this district is in accordance with the principles laid down in the Board's letter ; and, further, as there are no private slaughter-houses in the City, the condition of the meat is usually discovered by the Meat Inspectors at the Municipal Abattoirs, immediately after slaughter, and if found to be diseased, the meat is surrendered voluntarily, and such cases are not taken into Court.

Although the danger of transmitting tuberculosis through the medium of meat may not be very great, it is felt that in the interests of the consumer the inspection should be as complete and as thorough as possible. Within the City this inspection meets all reasonable requirements, but, at the same time, it affords an insufficient protection against the introduction of diseased meat from without the urban district.

The difficulties of inspecting meat in rural districts, in which there is a large number of private slaughter-houses, are considerable, but I fear that no great efforts are made to overcome these difficulties. In some continental cities, meat stations have been established for the examination of all carcases slaughtered outside the urban districts. To introduce this method into this district, it would be necessary to obtain powers in a Local Act of Parliament.

"SEIZURE AND CONDEMNATION OF TUBERCULOUS MEAT.

Local Government Board,
Whitehall, S.W.,
7th September, 1904.

Sir,

I am directed by the Local Government Board to state that they have had under consideration the Report of the Select Committee of the House of Commons on the Tuberculosis (Animals) Compensation Bill, 1904, in which reference is made (*a*) to the variety of practice alleged to exist with regard to the amount of tubercular deposit, the existence of which in a carcase is held to justify its total condemnation ; and (*b*) to complaints made by butchers as to the injury caused to them by their prosecution in open court for having tuberculous meat upon their premises.

With regard to (*a*) it appears to the Board to be most desirable that there should be uniformity in the practice of Meat Inspectors in dealing with the carcases of cattle ; and they have already on two occasions, viz., in their Circular letters of the 11th March, 1899, and 6th September, 1901, set out, and urged the observance of, the principles laid down by the Royal Commission on Tuberculosis in their report of 1898 with respect to the degree of tubercular disease which should cause a carcase or part thereof to be seized. The Royal Commission stated as follows :—

"We are of opinion that the following principles should be observed in the inspection of tuberculous carcases of cattle :—

(*a*) When there is miliary tuberculosis of both lungs. (*b*) When tuberculous lesions are present on the pleura and peritoneum. (*c*) When tuberculous lesions are present in the muscular system, or in the lymphatic glands embedded in or between the muscles. (*d*) When tuberculous lesions exist in any part of an emaciated carcase.	The entire carcase and all the organs may be seized.
(*a*) When the lesions are confined to the lungs and the thoracic lymphatic glands. (*b*) When the lesions are confined to the liver. (*c*) When the lesions are confined to the pharyngeal lymphatic glands. (*d*) When the lesions are confined to any combination of the foregoing, but are collectively small in extent.	The carcase, if otherwise healthy, shall not be condemned, but every part of it containing tuberculous lesions shall be seized."

The Board are of opinion that, at the present time, measures more stringent than those advocated by the Royal Commission are not called for ; but they would impress upon the Council the expediency and desirability of insisting upon those of their officers who are employed as Meat Inspectors acting in strict accordance with the principles thus laid down, if this is not already the case.

With regard to (*b*) the Select Committee express their view that, if a butcher who is in possession of tuberculous meat has notified the fact to the proper authority as soon as he could be reasonably expected to be aware of it, the case should not be taken into Court.

The Board understand that in some districts the course recommended by the Committee is followed now, but where this is not so the Board suggest that, having regard to the serious consequences which may result to a butcher from prosecution in open court for being in possession of tuberculous meat, the Council should act upon the view expressed by the Select Committee in cases where such possession is voluntarily and promptly disclosed by the owner.

I am, Sir,

Your obedient Servant,

S. B. PROVIS,

Secretary

The Town Clerk, or
The Clerk to the Urban District Council, or
Rural District Council."

SALE OF FOOD AND DRUGS ACT.—Samples of food and drugs taken in the City of Cardiff during the year 1905, and submitted to the Public Analyst, Mr. Thomas Hughes, F.I.C., F.C.S. :—

Samples obtained.	Number of Samples.	Number of Genuine Samples.	Number of Samples Adulterated.	Fines.
Milk	350	338	12	5 cases no action taken. 2 cases dismissed. Fines of £10 and costs, £20 and costs, £2 and costs, £1 including costs, and £20 and costs.
Cream	2	2	—	
Butter	84	83	1	No action taken.
Margarine	60	60	—	
Cheese	8	8	—	
Demarara Sugar ..	4	4	—	
Flour	12	12	—	
Cornflour	9	9	—	
Bread	5	5	—	
Coffee	9	9	—	
Tea	6	6	—	
Beer	12	12	—	
Pepper	8	8	—	
Ginger	3	3	—	
Sweets	7	7	—	
Rice	5	5	—	
Lard	8	8	—	
Baking Powder ..	5	5	—	
Arrowroot	3	3	—	
Total	600	587	13	£53 and costs.

From the foregoing Table it will be seen that the majority of samples submitted for analysis were milk, and that 3·4 per cent. of these were adulterated. Of the samples of milk, 230 were taken from retail dealers, 109 from wholesale dealers at the Railway Stations, 7 from cow-keepers within the City, and 4 on delivery. Of the adulterated samples, 4 were taken from retail dealers, and 8 from the Railway Station.

TABLE VIII.

The following Table, taken from the official return of the Board of Agriculture for 1904, gives the number of samples of food and drugs examined in several large towns, under the Sale of Food and Drugs Acts :—

Towns.	Population (1904).	Total.		Milk.		Butter.		Cheese.	
		Examined.	Adulterated.	Examined.	Adulterated.	Examined.	Adulterated.	Examined.	Adulterated.
West Ham	288,424	1,054	138	564	84	372	40	6	1
Croydon	144,419	336	37	149	26	106	2	6	—
Brighton	126,286	499	38	276	24	63	3	16	—
Portsmouth	198,038	997	74	604	42	152	7	22	—
Plymouth	114,003	230	17	105	12	40	—	—	—
Bristol	343,204	735	52	278	30	372	9	—	—
Swansea	95,931	293	19	119	15	25	—	14	—
Norwich	115,538	195	39	113	32	12	—	6	—
Leicester	224,186	337	11	167	3	66	1	—	—
Nottingham	248,811	570	68	278	25	104	5	12	—
Derby	120,449	114	17	39	3	20	—	3	—
Birkenhead	114,814	171	8	64	6	46	2	10	—
Liverpool	723,430	2,055	168	990	99	197	8	13	—
Bolton	175,744	217	19	106	12	33	7	—	—
Manchester	557,938	1.843	73	956	32	173	11	29	—
Salford	228,983	830	34	284	10	286	7	129	—
Oldham	139,497	237	42	161	8	10	4	—	—
Burnley	100,569	303	9	112	1	58	2	—	—
Blackburn	132,134	248	5	110	3	46	1	—	—
Preston	115,055	264	25	85	4	52	—	5	—
Halifax	107,580	216	18	138	10	26	3	1	—
Bradford	285,089	615	40	221	5	67	5	2	—
Leeds	450,142	704	191	601	143	37	19	4	—
Sheffield	432,940	700	106	444	54	75	20	18	5
Hull	253,865	696	19	186	8	85	4	49	—
Sunderland	151,157	139	19	74	13	19	—	10	—
Gateshead..	118,067	112	13	67	13	2	—	—	—
Newcastle-on-Tyne	225,362	493	24	294	19	33	—	—	—
Cardiff	176,313	600	12	413	12	36	—	8	—

The following circular relating to milk samples was received during the year :—

" BOARD OF AGRICULTURE,
4, Whitehall Place,
London, S.W.,
16th March, 1905.

SALE OF FOOD AND DRUGS ACT, 1899 (62 and 63 Vict., c. 51.)

Sir,

I am directed by the Board of Agriculture and Fisheries to advert to their Circular-letter of the 28th December, 1901, of which a copy is herewith enclosed, and to inform you that they have received numerous representations from dairy farmers and others complaining of the institution of proceedings under the Sale of Food and Drugs Acts, 1875 to 1899, in cases in which, as is alleged, the deficiency of milk-fat or milk-solids as compared with the limits laid down in the Sale of Milk Regulations, 1901, was due to accidental causes and not to any fraudulent action on the part of the vendor.

In the Circular-letter above referred to, the Board suggested that in the absence of any special circumstances indicating the commission of fraud, the Local Authority might in the first instance call the attention of the vendor to the adverse report of the analyst and afford him an opportunity of submitting any explanation he might desire to offer on the subject. The Board further expressed the opinion that if the explanation were one which the Local Authority felt able to accept, they might, in the exercise of their discretion, refrain from the institution of proceedings, or withdraw any summons which it might have been necessary to take out in order to avoid the failure of proceedings, at the same time making arrangements for the taking of further samples of the milk supplied, in order that a satisfactory conclusion as to its character might be arrived at.

The experience of the past three years has confirmed the propriety of the views expressed by the Board on the subject, and they would be glad to learn that your Local Authority have made arrangements to proceed on the lines suggested, and if not, that the matter will be further considered at an early date.

I am also to say that the Board think it very desirable that farmers, dairymen, and all other cowkeepers should have samples of the milk of their cows tested from time to time, so that they may be able to watch the seasonal and other variations in the quantity of milk-fat contained in the milk, and by modifications in the feeding, housing, or time of milking, and, if necessary, by the disposal of animals giving milk of an exceptionally poor character, keep the quality of their milk at a satisfactory level. The Board have ascertained that with the object of assisting farmers thus to acquaint themselves with the character of their milk, the various Agricultural Colleges and Agricultural Departments of the University Colleges, etc., are willing to determine, for a fee of sixpence, the percentage of milk-fat in any sample of milk which may be sent to them from the Counties with which they are respectively associated. Detailed information as to the arrangements thus made is given in the journal of the Board of Agriculture for March, 1905. The Board would be glad if your Local Authority would co-operate with them in the matter, and do what is possible to facilitate the testing of milk in the manner proposed.

The Board are satisfied that if the keepers of cows will from time to time test the quality of their milk for themselves, and if the Local Authorities will adopt some such arrangement as that above suggested for hearing what the vendor has to say for himself before taking the case into open Court, any legitimate ground of complaint on the part of producers as to the administration of the law, so far as the adulteration of milk is concerned, will speedily be removed.

I am, Sir,

Your obedient Servant,

T. H. ELLIOTT,

Secretary."

"BOARD OF AGRICULTURE,

4, Whitehall Place,

London, S.W.,

28*th December*, 1901.

SALE OF FOOD AND DRUGS ACT, 1899

(62 and 63 Vict., c. 51.)

Sir,

I am directed by the Board of Agriculture to bring under the notice of your Local Authority the following observations with reference to the Regulations relating to the Sale of Milk in Great Britain, which, in pursuance of the powers conferred upon the Board by Section 4 of the Sale of Food and Drugs Act, 1899, were made by the Board on the 5th August, and came into operation on the 1st September, 1901.

The Regulations were as follows :—

MILK.

1. Where a sample of milk (not being milk sold as skimmed, or separated, or condensed milk) contains less than 3 per cent. of milk-fat, it shall be presumed for the purposes of the Sale of Food and Drugs Acts, 1875 to 1899, until the contrary is proved, that the milk is not genuine, by reason of the abstraction therefrom of milk-fat, or the addition thereto of water.

2. Where a sample of milk (not being milk sold as skimmed, or separated, or condensed milk) contains less than 8·5 per cent. of milk-solids other than milk-fat, it shall be presumed for the purposes of the Sale of Food and Drugs Acts, 1875 to 1899, until the contrary is proved, that the milk is not genuine, by reason of the abstraction therefrom of milk-solids, other than milk fat, or the addition thereto of water.

SKIMMED OR SEPARATED MILK.

3. Where a sample of skimmed or separated milk (not being condensed milk) contains less than 9 per cent. of milk-solids, it shall be presumed for the purposes of the Sale of Food and Drugs Acts, 1875 to 1899, until the contrary is proved, that the milk is not genuine, by reason of the abstraction therefrom of milk-solids other than milk-fat, or the addition thereto of water.

In the Regulations the limits below which a presumption is raised that the milk is not genuine were necessarily fixed at figures lower than those which are usually afforded by genuine milk, in which the proportion of milk-fat and non-fatty solids very frequently exceeds the percentages specified above. It is therefore important that Local Authorities should keep steadily in view the possibility of the artificial reduction of the quality of natural milk to the official limits by the abstraction of cream, or the addition of separated milk, or of water, and arrangements should be made for the taking of samples and the submission of the same for analysis whenever the existence of malpractices of the kind is suspected. In this connection, it may be observed, that the evidence given before the Milk Regulations Committee (Cd. 491), tended to show that the practice of fraudulently mixing separated milk with new milk has become increasingly prevalent, particularly in some of the larger towns.

Although the quality of genuine milk offered for sale will usually be well above the official limits of milk-fat and non-fatty solids, there may occasionally, and especially in certain seasons of the year, be cases in which a sample of genuine milk may fall below those limits. To meet cases of this kind it is suggested that in the absence of any special circumstances indicating that the case is a fraudulent one, the Local Authority might, in the first instance, call the vendor's attention to the analyst's report, and ask him whether he desires to offer any explanation, and if the explanation is one they are able to accept, they might, in the exercise of their discretion, refrain from the institution of proceedings or withdraw any summons which, in order to prevent the failure of proceedings, by reason of the time-limit imposed by the Act, it may have been necessary to take out. But it may be desirable that further samples of milk should be taken in such cases, in order that a satisfactory conclusion as to the character of the milk supplied may be arrived at.

CREAM.

The Milk Regulations Committee reported that the evidence submitted to them went to show that it was a common practice to add gelatin to cream for the purpose of giving it a fictitious appearance of richness or thickness. Local Authorities are urged to take steps to ascertain whether this form of adulteration is practised within their districts, and if a public analyst reports the presence of gelatin or other similar substance in a sample of cream, the Local Authority concerned should consider whether the case is one in which proceedings might not with advantage be instituted under Section 6 of the Sale of Food and Drugs Act, 1875.

Collection and Retention of Samples.

It is desirable that, so far as may be found practicable, there should be uniformity of procedure in collecting and retaining samples of milk procured under the provisions of the Sale of Food and Drugs Acts, and the following recommendations have been drawn up for the guidance of the local officials employed in this work. :—

(1) The quantity to be purchased should not be less than one pint, except that it may be expedient to purchase only half-a-pint in cases where there is reason to believe that the object of the purchase would be defeated if a greater quantity were demanded.

(2) The division of the sample under Section 14 of the Act of 1875, as amended by Section 13 of the Act of 1899, should be made as equally as possible, so that the portion reserved by the purchaser may be not less than one-third of the whole.

(3) The bottle used for each divided part should have a narrow neck, and be of such capacity that the milk may nearly or quite fill it. The shape of bottle known as "Winchester" is strongly recommended, but in any case the bottles should have rounded sides in order to give security to the sample during transit by post or otherwise.

(4) Corks only should be used and these should always be new and sound, and fitting so tightly as to secure the contents without any aid from the wax which is subsequently used for sealing the sample. It is most desirable that the sealing should be carried out in such a way as to prevent any attempt to remove the cork. It is therefore recommended that the cork should be slit down to one-fourth of its length and the string drawn through and securely fastened round the neck, the ends being afterwards carried to the top of the cork and sealed thereon.

(5) Special attention should be given that the reserved portion of milk be kept in as equable and cool a temperature as possible, pending its production in Court in instances where proceedings are taken ; and, if directed by the Justices to be referred to the Government Laboratory, it should be carefully packed so as to secure its safe transmission.

The Board would be obliged if you would take steps to bring this Circular under the notice of your Local Authority, and they will be glad to forward you additional copies for distribution amongst the members of your Local Authority and the officers concerned, upon being informed of the number you require.

I am, Sir,

Your obedient Servant,

T. H. ELLIOTT,

Secretary."

In accordance with the views expressed in these letters, I have, in a few cases, in which the milk was, as regards milk-fat and non-fatty solids, slightly below the official limits, called the attention of the milk vendor to the circumstance. I cannot say that in any of the above cases a satisfactory explanation was forthcoming. The time is yet too short since this method has been in operation to justify a decision as to its expediency. It seems likely, however, to place the Local Authority in a somewhat difficult position, and the following points deserve consideration. In the first place, it would obviously be impossible to take proceedings, with any chance of a conviction, in a case in which the Local Authority had communicated with a milk vendor in the terms of the Board's letter. The effect in practice, therefore, would be to reduce the standard of milk below the limit set forth in the Milk Regulations of 1901. This in itself is undesirable, as it is admitted on all sides that this limit has been placed sufficiently low, and can be easily attained. This seems to be admitted in the Board's letter of 28th December, 1901, in which it is stated that "In the Regulations, the limits below which a presumption is raised that the milk is not genuine, were necessarily fixed at figures lower than those which are usually afforded by genuine milk, in which the proportion of milk-fat and non-fatty solids very frequently exceeds the percentage specified above." Further, it would appear that the Court of Summary Jurisdiction is the most suitable place for a defendant to make an explanation, and that it would be to his advantage to defend his position in a place where he could, if necessary, be heard through his legal adviser, and where his defence would receive proper and judicial consideration.

INSPECTION OF FACTORIES AND WORKSHOPS.—The Factory and Workshop Act of 1901 makes considerable alterations in and additions to the duties hitherto falling upon Medical Officers of Health. Under Section 132, the Medical Officer of Health is required in his Annual Report to deal specifically with the administration of the Act (so far as the matters under the charge of the Sanitary Authority are concerned), and to send a copy of this report to the Secretary of State.

The work carried out during the year 1905 is shown in the subjoined tables.

Sec. 101 of the Act imposes important duties on Sanitary Authorities in regard to underground bakehouses. The Section provides that no underground bakehouse shall be used as such unless it was so used at the time of the passing of the Act, *i.e.*, August 17th, 1901, and further, that after the 1st of January, 1904, no underground bakehouse (whenever established), may be used unless the Sanitary Authority is satisfied that it is suitable for the purpose in regard to construction, light, ventilation, and in all other respects, and have given it a certificate of suitability. A definition of the term "underground bakehouse" is given for the first time in this Act :—"A bakehouse is to be deemed an underground bakehouse if any room used for baking or for any process incidental thereto, is so situate that the surface of the floor is more than three feet below the surface of the footway of the adjoining street, or of the ground adjoining or nearest to the room." The question of the conditions under which these certificates should be granted is one of some difficulty, as no detailed instructions are given in the Act.

The matter is left entirely to the discretion of the Sanitary Authority, subject to the general principle, that all underground bakehouses must be suitable as regards construction, ventilation, light, and in all other respects.

This section of the Act was apparently framed with the intention of encouraging the total abolition of underground bakehouses, and there can be no doubt that it would have this effect if Sanitary Authorities throughout the country were to adopt a high standard of suitability. On the other hand, as these certificates are not subject to periodical renewals, the practical working of this part of the Act may, unless extreme care is taken, result in the prolonged use of unsuitable premises.

In Cardiff there were only seven underground bakehouses at the time of the passing of the Act, four of these have since been abolished as entirely unsuitable for the purpose.

Three certificates have been granted to the occupiers of underground premises after the completion of extensive structural alterations as required by the Sanitary Authority.

The following information is set forth on the form supplied by the Secretary of State, a copy of which was forwarded to the Home Office in January of the present year.

INSPECTION OF FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES AND HOMEWORK.

PREMISES.	NUMBER OF	
	Inspections.	Written Notices.
Factories	147	36
Workshops	1,559	210
Workplaces	22	10
Homeworkers' Premises	159	18
Total	1,887	274

DEFECTS FOUND.

PARTICULARS.	NUMBER OF DEFECTS.	
	Found.	Remedied.
Want of cleanliness	89	89
Want of ventilation	15	15
Overcrowding	1	1
Other nuisances	70	70
Sanitary accommodation: insufficient	9	9
Sanitary accommodation: unsuitable or defective	78	78
Sanitary accommodation: not separate for sexes	12	12
Total	274	274

OTHER MATTERS.

CLASS.	NUMBER.
Failure to affix Abstract of the Factory and Workshop Act (Sec. 133)	23
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Acts, but not under the Factory Act :—	
Notified by H.M. Inspectors	22
Reports (of action taken) sent to H.M. Inspectors	22
Other (Sec. 127, Sub. Sec. 3)	68
Underground Bakehouses in use at the end of the year	3

Homework :—	NUMBER OF	
	Lists.	Outworkers.
Lists received	94	216
	Wearing Apparel.	Other.
Cases of infectious disease notified in homeworkers' premises	7	*1
Orders prohibiting homework in infected premises	7	1

Workshops on the Register at the end of the year :—	
Bakehouses	188
Other	1,122
Total number of Workshops on Register	1,310

* Bedding Maker.

INSPECTION OF FACTORIES AND WORKSHOPS.

Factory and Workshop Act, 1901, Shop Hours Acts, 1892-95-1904, and the Seats for Shop Assistants Act, 1899.

During the year a large number of workshops have been inspected. The results of these inspections are given in the annexed Tables :—

Nature of Workshops Inspected.	Number on Register.	Number of Inspections.
Bakers	188	599
Sugar Boilers	5	3
Tailors	242	545
Dressmakers	265	188
Milliners	65	49
Corset Makers	1	1
Shirt and Hose Manufacturers	2	1
Bootmakers	96	62
Saddlers	13	1
Oilskin Manufacturers	4	1
Umbrella Makers	3	2
Laundries	25	62
Carpenters	29	20
Cabinet Makers	24	14
Upholsterers	22	2
Picture Frame Makers	10	11
Coopers	2	5
Pattern Makers	3	3
Bottlers	23	27
Packers	26	25
Tinsmiths	5	6
Blacksmiths	19	33
Plumbers	18	4
Engravers	2	—
Printers	23	33
Bookbinders	2	2
Paper Bag Makers	9	3
Box Makers	4	10
Watchmakers	8	7
Dentists	1	—
Blue Factory	1	—
Tent and Sail Makers	5	—
Basket Makers	2	—
Blind Makers	5	3
Mat Makers	1	—
Truss Makers	1	—
Bed Makers	2	14
Mattress Makers	2	3
Tobacco Pipe Makers	1	—
Musical Instrument Makers	6	—
Sewing Machine Makers	2	—
Perambulator Makers	1	—
Cycle Repairers	12	6
Electro Platers	2	—
Electricians	3	1

INSPECTION OF FACTORIES AND WORKSHOPS—Continued.

Nature of Workshops Inspected.	Number on Register.	Number of Inspections.
Cigar Manufacturers	1	1
Cigarette Manufacturers	5	2
Firewood Cutters	2	4
Cork Cutters	1	3
Restaurants	—	9
Stable Yards	—	13
Coach Builders	14	5
Engineers	30	7
Brass Workers	4	6
Wire Workers	1	—
File Works	1	—
Scale Makers	3	2
Oil and Colour Works	2	—
Rope Manufacturers	2	—
Hairdressers	4	2
Photographers	5	8
India Rubber Works	2	—
Aerated Water Manufacturers	3	3
Stone Masons	4	—
Cement Works	1	—
Asphalte Works	3	—
Rag Sorters	4	53
Plaster Moulders	3	2
Biscuit Works	2	11
Flour Mills	4	3
Furrier	1	2
Tanner	1	—
Jam Factory	1	2
Boat Builders	5	2
Saw Mills	10	—
Brick and Tile Works	1	—
Patent Fuel Works	1	—
Chemical Works	1	—
Copper Works	1	—
Milk Sterilizers	1	—
Optician	1	1
Total	1,310	1,887

Notices of new workshops from Inspector of Factories under Factory and Workshop Act, 1901, Sec. 127, Sub. 3—68.

Notices from Inspector of Factories *re* sanitary defects in workshops, under Factory and Workshop Act, 1901, Sec. 5, Sub. 1—22.

Notices sent by Sanitary Authority to Inspector of Factories under Factory and Workshop Act, 1901, Sec. 133—23.

NUISANCES IN WORKSHOPS.

	Bakers.	Tailors.	Dressmakers.	Carpenters.	Wheelwrights.	Cabinet Makers.	Milliners.	Printers.	Smiths.	Engineers.	Laundries.	Bottlers.	Bootmakers.	Photographers.	Picture Framers.	Cycle Repairers.	Jewellers.	Packers.	Sugar Boilers.	Boat Builders.	Rag Sorters.	Jam and Pickle Makers	Brass Founder.	Firewood Cutter.	Bedding Makers.	Biscuit Works.	Box Makers.	Blind Makers.	Hairdressers.	Pattern Makers.	Coopers.	Plumbers.	Stable Yards.	Restaurant.	Butchers.
W.c. accommodation provided ...	1	6	5	1	1	...	...	...	2	...	2	...	...	...	...	...	...	1	...	...	1	...	1	...	...	...	...	..	...	...	...	...	...	...	...
Drains trapped and repaired ...	1	6	2	...	...	...	1	2	2	...	1	2	...	1	1	...	...	...	...	1	...	...	1	...	...	...	1	...	...	1	1	...	...	...	...
Flushing apparatus provided ...	...	9	2	1	...	1	...	2	...	...	2	1	...	...	2	...	...	...	...	...	2	1	...	...	...	1	...	1	...	...	1	...	2	...	1
W.c.'s cleansed and repaired ...	3	5	3	2	...	2	...	...	...	1	1	...	...	...	2	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...
Limewashing	70	8	2	...	...	...	2	...	...	1	...	...	...	...	...	...	1	...	1	...	...	1	...	..	...	...	...	...	1	...	...	...	1	1	...
Workrooms ventilated	...	8	2	...	...	...	2	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Paving, roofs, &c., repaired ...	9	14	8	...	...	...	...	1	...	...	2	...	1	1	...	...	...	1	1	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	1
W.c. removed from Workroom ...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Defective smoke stacks	...	...	...	...	...	...	...	1	1	...	2	...	...	...	...	1	...	...	...	...	...	...	...	1	..	...	...	1	...	...	...	...	...	...	...
Accumulations	6	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	4	...	...
Manure pits erected	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
Workrooms overcrowded	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Doors reversed	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Stables drained	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fowls so kept	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Water put on	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Total	91	61	27	4	1	3	5	6	5	3	11	6	1	2	5	1	2	4	2	1	5	2	2	1	1	2	1	2	2	1	2	1	7	2	2

SHOP HOURS ACT, 1904.—This Act, which came into operation during the year 1904, enables Local Authorities to make "Closing Orders," fixing the hours of closing on the several days of the week, either in the entire area of the district of the Local Authority or in any specified part thereof. The Closing Order may apply to all shops, or to shops of any specified class.

The Act requires that the occupiers of shops desirous of promoting early closing should apply to the Local Authority, who may then take further steps in accordance with the provisions of the Act.

SHOP HOURS ACTS.

Nature of Shops inspected.	Number of Inspections.	Employing Young Persons.	Employing Females.	Seats Provided.
Drapers	116	99	114	114
Grocers	88	77	7	7
Butchers	69	44	—	—
Hairdressers and Tobacconists	673	99	105	105
Newsagents and Stationers	70	45	61	61
Fruiterers	33	17	20	20
Public Houses	16	—	13	13
Boot Dealers	77	61	47	47
Confectioners	41	18	35	35
Fancy Dealers	37	20	31	31
Outfitters	27	17	—	—
Ironmongers	10	8	—	—
Picture Dealers	2	1	—	—
China Dealers	5	3	1	1
Seedsmen	3	2	—	—
Cycle Dealers	3	1	—	—
Furniture Dealers	3	3	2	2
Chemists	7	5	—	—
Jewellers	4	3	—	—
Umbrella Dealers	1	—	—	—
Leather Dealers	1	—	—	—
Restaurants	1	—	1	1
Total	1,287	523	437	437

SHOP HOURS ACT, 1904.

PROSECUTIONS.

Shops kept open during prohibited hours	3
Not exhibiting notices	29
Total	32

RESULTS.

Fined 5/-	4
,, 2/6	12
,, 1/-	3
,, Costs	1
Cautioned	12
Total	32

MIDWIVES ACT, 1902.—This Act came into operation on the 1st April, 1903, when the Council of the City of Cardiff was constituted the Local Supervising Authority within the City. Section 8 of the Act provides that "The Local Supervising Authority may delegate, with or without any restrictions or conditions as they may think fit, any powers or duties conferred or imposed upon them by or in pursuance of this Act, to a Committee appointed by them, and consisting either wholly or partly of members of the Council, and the provisions of Sub-sections (1) and (2) of Section 82 of the Local Government Act, 1888, shall apply to every Committee appointed under this Section and to every Council appointing the same, and women shall be eligible to serve on any such Committees."

Under the powers of this Section, the Local Supervising Authority delegated to the Health and Port Sanitary Committee all the powers and duties conferred or imposed upon them, and appointed the Medical Officer of Health Executive Officer, in accordance with the suggestion contained in the Memorandum of the Central Midwives Board.

The object of the Act is to secure the better nursing and supervision of midwives, by the establishment of a system of certification and enrolment of women qualified to act in that capacity. The Act provides that from and after the 1st April, 1905, no woman may call herself a midwife unless she is certified under the Act, and that after the 1st April, 1910, no woman shall habitually, and for gain, attend women in child-birth, otherwise than under the direction of a qualified medical practitioner, unless she is so certified. It provides also for the certification of existing midwives who have been in practice for at least one year prior to the 31st July, 1902, provided they apply for certification not later than the 1st April, 1905. After that date, certification can only be obtained after a course of study, and by passing an examination in accordance with the Rules of the Central Midwives Board. The course of training before admission to the Board's examination requires attendance at not fewer than twenty labours, and the nursing of twenty lying-in women, and the attendance of a sufficient course of theoretical instruction extending over a period of not less than three months.

The authorities of the University College of South Wales and Monmouthshire, in Cardiff, have established a course of training, in accordance with the Regulations of the Central Midwives Board, for those women who intend to present themselves for the Board's examination. Dr. E. J. Maclean, the lecturer on Midwifery at the College, who gives the instruction, informs me that during the year ending October, 1905, 88 pupil midwives attended the course; of these, 38 were resident in the City of Cardiff. The Local Supervising Authorities of Cardiff, and of the administrative County of Glamorgan, contribute towards the expenses of this course and have the privilege of nominating a certain number of women each term for free studentships in midwifery. The Committee of the Queen's Nursing Institute have also established a Maternity Department, and are taking pupils for the practical training of midwives. Both the theoretical training at the College, and the practical course in connection with the Nursing Institute, have been recognised by the Central Midwives Board as qualifying for admission to their examination.

The first duty which devolved upon the Authority was to give notice to the effect of the Act, so far as practicable, to persons at present using the title of midwife. This was done by advertisement in the local newspapers, by large printed notices, and by small handbills left at the residence of the midwife.

The Midwives Act confers upon the Local Supervising Authority extensive and responsible duties in connection with the supervision of all midwives certified under the Act, and practising within the area of their jurisdiction. These duties are as follows :—

(1) To exercise general supervision over all midwives practising within their area, in accordance with the rules laid down under the Act.

(2) To investigate charges of mal-practice, negligence, or misconduct on the part of any midwife practising within their area, and, should a *prima facie* case be established, to report the same to the Central Midwives Board.

(3) To suspend any midwife from practice, in accordance with the rules under the Act, if such suspension appears necessary in order to prevent the spread of infection.

(4) To report at once to the Central Midwives Board the name of any midwife practising in the area convicted of an offence.

(5) During the month of January of each year to supply the Secretary of the Central Midwives Board with the names and addresses of all midwives, who during the preceding year have notified their intention to practise within their area, and to keep a current copy of the roll of midwives, accessible at all reasonable times for public inspection.

(6) To report at once to the Central Midwives Board the death of any midwife or any change in the name or address of any midwife in their area, so that the necessary alteration may be made in the roll.

In addition to the above powers and duties of the Local Supervising Authority, they are authorised to prosecute any offences under the Act punishable on summary conviction.

At the close of the year 1905, there were 116 midwives certified under the Act, practising within the area of the jurisdiction of the Cardiff Local Supervising Authority; of these, 101 were certified on the ground of having been in *bona-fide* practice, and 14 on the ground of holding a certificate of the London Obstetrical Society, and one as holding a certificate from the Combe Lying-in Hospital.

Miss Hoyle, the Woman Inspector, who has obtained the certificate after examination by the examiners appointed by the Central Midwives Board, visits the residences of the certified midwives in the district and supervises their practice, in accordance with the rules of the Board. During the year 386 visits have been paid by her. The following table will show the extent to which the midwives in the district have complied with the regulations of the Board as regards appliances, &c. :—

Certified Midwives.	Case Book.	Record Book.	Washable Dresses.	Bags.	Appliances.
79	79	79	79	79	79
13	13	13	13	—	—
10	10	10	—	10	10
4	—	—	—	—	—
3	3	3	—	—	—
109					

Number of Certified Midwives, with their Qualifications.

Bona-fide	92
Obstetrical Society of London	12
Rotunda Hospital	1
Examination of Central Midwives Board	4
Total	109

MILK SUPPLY.—The inspection of cowsheds within the City, which was formerly carried out by Mr. Moir, M.R.C.V.S., is now undertaken by Mr. G. M. McGregor, the Assistant Meat Inspector, who also reports all cases of sickness amongst the cows. On receiving any such report, the Medical Officer of Health instructs the Veterinary Surgeon to visit and inspect the cows, and, if necessary, steps are taken to prevent the distribution of milk from diseased cows, under the powers given by the Dairies, Cowsheds and Milkshops Orders and Regulations. The Order of 1899 extends the powers contained in that of 1885 relating to the prohibition of the sale of milk from diseased cows, so as to include, in the case of a cow, such disease of the udder as shall be certified by a veterinary surgeon to be tubercular. The milk, therefore, from such cow may not be mixed with other milk, and may not be sold or used for human food. No case of tuberculous udder has been reported to me during the year. Provision is also made for the protection of milk, under the Infectious Disease Prevention Act. This Act gives power to the Medical Officer of Health, if he has reason for believing that infectious

disease in his district is attributable to, or is likely to be caused by, milk from any dairy, whether within or without the district, to inspect the dairy, and, if accompanied by a veterinary surgeon, the cows therein. On the Medical Officer of Health reporting that infectious disease is caused by the consumption of the milk, the Local Authority may make an Order prohibiting the sale of the milk in their district. Proceedings were taken, under this Act, in one instance during the year, under the following circumstances :—

In May, my attention was called to two cases of enteric fever in the residence of a milk purveyor outside the City boundaries, and within the district of the Llandaff and Dinas Powis District Council, one of the persons attacked with the disease being the man in charge of the cows. Being of opinion that the disease was caused by the consumption of the milk, and that its further consumption was likely to cause disease, I obtained the authorisation of a justice to inspect the dairy and cowsheds. I found the premises in a somewhat dirty condition from the accumulation of manure. The occupier was not registered under the Dairies, Cowsheds and Milkshops Order, and was entirely ignorant of the provisions of the Order. I advised the Cardiff Sanitary Authority to make an order prohibiting the sale of milk from this dairy within the city, until I certified that the premises were free from infection. An Order was accordingly made. No further cases of enteric fever occurred in connection with this milk supply.

The application of this Act is attended with considerable delay and inconvenience, and the control over an infected milk supply is imperfect. For instance, in this particular case, the milk vendor was prohibited from supplying milk to Cardiff, but there was nothing to prevent him selling it in the adjoining rural district, supposing the authority of that district had any objection to that proceeding.

During the year to which this report refers, I have visited and inspected every cowshed within the City. Some of them I found to be in a good sanitary condition, the occupiers complying with the regulations as to cleanliness, &c ; others were not in so satisfactory a state. The attention of all milk vendors was called to the necessity of strict compliance with the " Orders " and " Regulations," and particularly to those relating to the cleanliness of the cows, and of the hands of the person milking the cows, to which too little regard is generally paid. Notices requiring structural alterations were served upon some of the cow-keepers with respect to defective paving and drainage, deficient water-supply, inadequate ventilation, and want of proper storage accommodation for milk and milk vessels. Attention has, as usual, been paid to the quality of the milk supplied to the public within the City, a large number of samples having been submitted to the Public Analyst, Mr. T. Hughes, F.I.C., F.C.S., to be dealt with, if necessary, under the Sale of Food and Drugs Acts.

The results of these analyses are as follows :—

Samples submitted to Analyst, 350. Genuine, 338. Adulterated, 12.

The fines imposed on conviction varied from £1 to £20 and costs.

Although the causes of infant mortality are numerous and complex, improper feeding is probably the most important factor in this connection, and since cows milk is the usual substitute for that of the mother, it becomes essential that this article of diet should be supplied in the greatest possible purity. Unless those who have charge of infants thoroughly realise the importance of this, municipal regulations applied to the milk trade will be of little avail. It has been the practice in Cardiff during the past few years, to distribute leaflets of instruction in infant feeding amongst the poorer inhabitants of the district, as soon as possible after the birth of a child is registered. The leaflets are left at the house by the Woman Inspector, who is also prepared to give verbal instruction, when this is likely to be acceptable. I have reason to believe that much good results from this proceeding, and that the visits of the Inspector are appreciated. It is probable that it has been one of the contributing causes to the unusually low rate of infant mortality during the year under consideration.

In some places, municipal authorities have gone a step further, by establishing depots and supplying cows milk under good hygienic conditions, and of a strength and composition suitable to infants of various ages. In these depots the milk is usually sterilized and humanized, that is, its composition is artificially altered so as to resemble, as far as possible, that of human milk. It is placed in sterile bottles, securely sealed, and distributed in this way. In Liverpool, Bradford, Battersea, and other places this system has been adopted, and is well spoken of.

I am indebted to Dr. Hope, the Medical Officer of Health for Liverpool, for the following information, derived from his Annual Report for 1903, setting forth the conditions under which the milk is supplied :—

(1) The milk is supplied in baskets of 9, 7, or 6 bottles, each bottle containing sufficient milk for one feed, according to the age of the child.

(2) When all the milk in one bottle is not used, the remainder must not be warmed up again for the infant, but a fresh bottle opened for its next meal.

(3) The person using the milk must guarantee to continue its use regularly during the needs of the child, and to send for it at the stated hours.

(4) Should the milk not be agreeing with the child, the matter should be reported at once.

(5) Every person using the milk will be supplied with two teats, which must be kept clean, and brought to the Depot for inspection at least once a week. Extra teats will be charged for at the rate of 3d. each.

(6) Just before using, each bottle should be placed unopened in a jug or basin of hot water, and warmed to the proper temperature. The bottle should then be opened and the teat inserted. It is recommended that at first the infant should be fed every two hours during the day, and every four hours during the night ; after four months of age the intervals of feeding should be gradually lengthened.

Some other instructions follow, but the above show the extreme care which must be exercised in the distribution of the milk.

Municipal milk depots must not be regarded in the light of remunerative undertakings. They have not been established with any such intention, but as a means of reducing infant mortality.

The Battersea Municipal Authority, acting on the advice of Dr. McCleary, the Medical Officer of Health, has established a very complete milk depot, which I have had the advantage of seeing in operation. Dr. McCleary states that in this depot the milk is obtained from a specially selected farm, and is supplied by the contractors under special precautions. It is guaranteed to contain not less than 3·25 per cent. of butter-fat and 8·75 of solids not fat, and to be free from chemical preservatives or colouring matter. Strict conditions as to cleanliness in milking, &c., are laid down. Except for a few weeks in the winter, the cows live in the open air, and are milked in the field, and immediately after milking the milk is strained, cooled to below 40°F., and sent to the depot in sealed churns. On arriving at the depot, the milk is again strained, and is then modified, bottled, and sterilized, and cooled as rapidly as possible in a cooling tank. Each child receives from six to nine bottles daily, and the quantity of milk in each is sufficient for one meal and no more. The bottles are supplied in wire baskets, each basket containing one day's supply, and not more than one day's supply is given out on any one day, except on Saturday, when Sunday's milk is also supplied. The milk is given to the baby from the depot bottle through a short rubber teat, supplied at the depot, and as each meal is in a separate bottle, a "feeding bottle" becomes unnecessary, which alone is no small advantage. Special precautions are taken to ensure that the milk shall not be used to the detriment of breast feeding. The milk is not supplied unless the applicant can produce a written recommendation from a medical practitioner, and every opportunity is taken to impress upon the mothers that the milk, like all artificial foods, is but an imperfect substitute for mother's milk, and that it should never be used in preference to mother's milk.

I am of opinion that much good may be done by a carefully conducted municipal depot, provided that, in the first instance, the source of supply is also completely under control and supervision, and this is usually rather a difficult matter. It is worse than useless to establish a depot for the sterilization of all sorts of milk from unknown sources. Placing the farmers and contractors under a written agreement to carry out certain sanitary regulations may be of use, as far as it goes, but after all, this is an incomplete supervision, and falls short of an ideal arrangement in which the dairy farm is municipal property, and therefore under complete control. If the milk is supplied under cleanly and aseptic conditions, cooled immeditately after it comes from the cow, and kept at a sufficiently low temperature until delivered, sterilization, which in itself is undesirable, would be unnecessary.

Milk supplied under the above conditions to a depot, might, I think, with advantage be supplied to infants selected under medical advice. Such a depot would therefore be a useful adjunct to the out-patient department of a hospital, or to a maternity charity, but the indiscriminate supply of milk by a municipality to all comers is, in my opinion, of doubtful advantage and unnecessary. The proper function of such a depot is the supply of pure cows milk under aseptic conditions to infants who are unable to obtain the natural supply from their mother's breast. It being understood that even this is a poor substitute for the mother's milk. On such lines a municipal milk depot could not be regarded as a form of municipal trading, but simply as a means of saving infant life, and the question of profit or loss would not come under consideration. In connection with the provision of municipal milk depots, the following remarks of Dr. Newsholme are of interest :—" The provision of créches, and, more especially, the provision of sterilized milk for infants by municipalities cannot be regarded as more than temporary and palliative measures, which may even serve to retard the real reforms on which improvement must ultimately depend. The responsibility for the care of the infant lies with the mother, and the hope of improvement lies in influences brought to bear upon her. The substitution of non-parental for parental care is only a makeshift, necessary in exceptional instances, but always to be regarded as a last resort. Efforts at training of elder girls in domestic economy and hygiene, the visitation of sympathetic and competent lady inspectors and nurses, soon after the birth of the infant, and at intervals afterwards, the exercise of sympathy and interest in these directions are likely to do more good than the indiscriminating provision of sterilized milk or créches."

At my suggestion, Dr. Schölberg is making a systematic bacteriological examination of the milk supply of Cardiff, and I have pleasure in enclosing the results of this inquiry, so far as it has gone, up to the present date.

Dr. Schölberg's report is of extreme interest and value as likely to form a scientific basis for administrative reform in connection with the supply of milk to the public.

As mentioned in this report, it is impossible to fix a bacterial standard for pure milk, but the following statement of Dr. Park, of New York, gives some useful indications in this respect. Dr. Park's opinion, based upon a large experience, is as follows :—" With only moderate cleanliness, such as can be employed by any farmer without adding appreciably to the milk when first drawn will not average in hot weather over 30,000, and in cold weather not over 25,000 bacteria per cubic centimetre. Such milk, if kept at 50°F., will not contain at the end of 24 hours over 100,000 bacteria per c.c. If kept at 40°F., this number will not be exceeded after 48 hours. In New York, milk purchased in ordinary shops averages in the coldest weather over 3,000,000, in cool weather about 1,000,000, and in hot weather about 5,000,000 bacteria per c.c."

In 1904, Dr. Newman, the Medical Officer of Health for Finsbury, made some bacteriological examinations of London milks, purchased in shops, collected in sterilized bottles, and examined a few minutes after purchase. The results obtained, as published in *Public Health*, February, 1904, were as follows :—

District.	Average No. of bacteria per c.c.
City of London	4,800,000
,, Westminster	1,600,000
Borough of Holborn	4,800,000
,, Islington	1,600,000
,, Finsbury A	2,300,000
,, ,, B	1.280,000
,, ,, C	3,200,000
,, ,, D	2,700,000
,, ,, E	340,000

Dr. Newman points out that a much more extended examination would be necessary to form any opinion upon the comparative condition of the milk of different districts. He mentions also that as a result of a large number of bacteriological examinations of milk in Berlin, Paris, Edinburgh, Boston, Melbourne, and other large cities, it has come to be recognised that even good milk may contain from 50,000 to 500,000 micro-organisms per c.c., if such are not injurious species. Some of the organisms found in milk are, of course, absolutely harmless.

Dr. Schölberg's report indicates, therefore, the extreme importance of greater care and cleanliness in the distribution and storage of milk. Sanitary authorities should have power to require that milk should be cooled to about 40°F. immediately after milking, and that it should be kept at that temperature during its transit by railway, and future storage. This would, of course, necessitate refrigerating plant in railway vans and cold storage at railway stations, and suitable appliances in milk shops. Much greater attention to cleanliness is required throughout the whole process of milk supply and distribution.

REPORT ON THE BACTERIOLOGICAL EXAMINATION OF MILK SUPPLIED TO CARDIFF.

By H. A. Schölberg, M.B. (Lond.), D.P.H. (Camb.)
Cardiff and County
Public Health Laboratory.

Introduction.—The examination of a series of samples of milk was carried out for the Medical Officer of Health of Cardiff, in order to ascertain the bacterial content of the milk consumed in Cardiff. The facts given are based on two distinct kinds of samples :—

Series A. Table I. Samples of milk as delivered by the consignor to the consignee at the Railway Station. (Number examined, 23.)

Series B. Table II. Samples of milk as offered for sale by the retail dealer in the City of Cardiff. (Number examined, 33.)

In neither of these series has any attempt been made to keep the microbial content relatively stable by refrigeration. A sample collected at the Railway Station is collected between 4 and 6 a.m., and is examined in the Laboratory at 10 a.m. Under Series B., a sample is purchased between 10 and 11 a.m., and examined at once. The conditions obtaining for the two series are the same as far as temperature changes are concerned, the only difference being that the sample in Series A is in a sterile sample-bottle, whilst the milk sold has been handled and passed through a series of vessels before it is offered to the buyer.

Remarks on Tables I. and II.—The average number of organisms per cubic centimetre developing at 37°C. (blood heat), in Series A is 446,619. The average number in Series B at the same temperature is 2,366,910.

Quantitative results have not the same significance as qualitative findings, but it is nevertheless important to note that by mid-day the milk sold has a five-fold higher bacterial content per unit volume than when it was first brought into the City.

The *qualitative* character of the milk as regards Indol production is not less striking. Eight samples collected at the Station fail to yield a positive result with 0·1 c.c., while only one in *Series* B (No. 44) responded in the same manner. The qualitative change bears out the quantitative differences noted in the two series.

Qualitative differences between Series A and B, taking the B Coli Commimunis as an index of Contamination.—The highest B. Coli content per c.c. under Series A was 100,000, which figure was obtained only once out of thirteen occasions on which that organism was isolated. On two out of thirteen occasions this organism was absent from 0·1 c.c., while in Series B, out of twenty-five times when this organism was proved to be present, only twice was it found in 0·1 c.c., the remaining twenty-three occasions being represented by quantities varying from 0·01 to 0.000001 c.c.

Sources of Pollution.—These have been discussed by the Medical Officer of Health, and need not be recapitulated here.

In answering the question as to the bacteriological cleanliness of a milk it is difficult to fix a standard, and up to the present time no standard has been fixed. In Table II., 16 out of the 33 samples have a qualitative bacterial content which may be considered undesirable for domestic purposes.

H. A. SCHÖLBERG.

TABLE I. SERIES A.—MILK SAMPLES DELIVERED BY THE CONSIGNOR TO THE CONSIGNEE AT THE RAILWAY STATION, CARDIFF.

No. of Sample.	Date Collected.	Bacterial Content of Sample per c.c.		Volume of Milk yielding Indol in Broth cultures. (5 days).	Preservatives.	Temperature at Roath Park—Degrees Fahrenheit.			
		At 37° C.	At 20° C.		+ Present. — Absent.	Maximum.	Minimum.	Earth. 1 foot.	Earth. 4 feet.
	1905								
1	6th July	128,000	308,000	0·1 c.c.		66·6	55·1	63·8	57·5
2	6th July	80,000	liquefied	0·0001 c.c.		,,	,,	,,	,,
3	6th July	99.200	liquefied	0·01 c.c.		,,	,,	,,	,,
4	6th July	uncountable from 0·01 c.c.	uncountable from 0·01 c.c.	0·01 c.c.		,,	,,	,,	,,
6	17th July	22,500	liquefied	0·001 c.c.	—	66·9	49·6	65·0	59·0
7	17th July	uncountable from 0·01 c.c.	uncountable from 0·01 cc. liquefiers +	0·001 c.c.	—	,,	,,	,,	,,
8	17th July	123,200	liquefied	0·001 c.c.	—	,,	,,	,,	,,
9	17th July	44,400	liquefied	0·0001 c.c.	—	,,	,,	,,	,,
10	17th July	147,200	liquefied	0·001 c.c.	—	,,	,,	,,	,,
21	21st September	100,000	400,000	0·1 c.c.	—	60·1	42·8	57·2	58·5
22	21st September	20,000	220,000	0·1 c.c.=negative	—	,,	,,	,,	,,
23	21st September	120,000	130,000	0·01 c.c.	—	,,	,,	,,	,,
24	21st September	3,440,000	2,880,000	0·1 c.c.=negative	—	,,	,,	,,	,,
29	1st November	70,000	290.000 (approx.)	0·1 c.c.=negative	—	50·7	37·0	48 0	52·5
30	1st November	L 10,000	50,000	0·1 c.c.=negative	—	,,	,,	,,	,,
31	1st November	90,000	140,000	0·1 c.c.	—	,,	,,	,,	,,
32	1st November	30,000	150,000	0·1 c.c.=negative	—	,,	,,	,,	,,
33	1st November	30,000	10,000	0·1 c.c.=negative	—	,,	,,	,,	,,
34	1st November	10.000	190.000	0·1 c.c.=negative	—	,,	,,	,,	,,
36	22nd November	640,000	1,730,000	0·001 c.c.	—	51·7	26·0	39·2	49·0
37	22nd November	20,000	L 10,000	0·1 c.c.=negative	+ Boric Acid	,,	,,	,,	,,
38	22nd November	80,000	50,000	0·01 c.c.	—	,,	,,	,,	,,
39	22nd November	70,000	100,000	0·1 c.c.	—	,,	,,	,,	,,

TABLE II.—SERIES B.—MILK SAMPLES AS OFFERED FOR SALE (RETAIL) IN THE CITY OF CARDIFF.

No. of Sample.	Date Collected.	Bacterial Content of Sample per c.c.		Volume of Milk yielding Indol in Broth Cultures. (5 days).	Preservatives. + Present. — Absent.	Temperature at Roath Park—Degrees Fahrenheit.			
		At 37°C.	At 20°C.			Maximum.	Minimum.	Earth. 1 foot.	Earth. 4 feet.
	1905								
5	6th July	102,400	liquefied	0·001 c.c.	—	66·6	55·1	63·8	57·5
16	31st July	592,000	uncountable using 0·001 c.c.	0·001 c.c.	—	67·9	49·0	64·5	60·0
18	2nd August	L 100,000	L 100,000	.....		69·1	42·0	63·5	60·0
R 1	4th August	2,400,000	.....	0 00001 c.c.	—	66·1	58·1	63·06	60 2
R 2	4th August	496,000	.....	0·001 c.c.	—	,,	,,	,,	,,
R 3	1st September	160,000	890.000	0·01 c.c.		62·3	48·2	60·5	59·5
R 4	2nd September	4,800,000	6,440,000	0·0001 c.c.		63·9	55·6	60·5	59·5
R 5	2nd September	3,200,000	uncountable	0·00001 c.c.		,,	,,	,,	,,
R 6	4th September	8,000,000	uncountable using 0·0001 c.c.	0 00001 c.c.		63·1	59·1	61·2	59·2
R 7	5th September	640,000	640,000	0 01 c.c.	—	67·9	53·1	61·2	59·2
R 8	5th September	4,900,000	64,000,000	0 00001 c.c.	—	,,	,,	,,	,,
R 9	6th September	11,680,000	uncountable	0·00001 c.c.	—	63·9	57·6	61·8	59·2
R 10	6th September	uncountable using 0·0001 c.c.	.....	0·00001 c.c.	—	,,	,,	,,	,,
R 11	11th September	100,000	200,000	0·0001 c.c.	—	61·3	48·5	59·8	59·2
R 12	11th September	8,600.000	6,800.000	0 001 c.c.	+ Formalin	,,	,,	,,	,,
R 13	12th September	100,000	300,000	0·001 c.c.	—	62·3	38·0	59·0	59·2
R 14	13th September	9,600,000	liquefied	0·000001 c.c.	—	61·9	46·0	59·0	59·2
R 15	13th September	1,200,000	1,660,000	0 0001 c.c.	—	,,	,,	,,	,,
R 16	14th September	80,000	liquefied	0·00001 c.c.	—	60·1	37·8	58·2	59·0
R 17	15th September	70,000	10,000	0·001 c.c.	—	61·6	36·2	57·5	59·0
R 18	16th September	120,000	120,000	0·1 c.c.	—	62·9	48 2	57·8	59·0
26	28th September	5,760,000	3,520.000	0·000001 c.c.		60·9	49·8	55·2	57·8
27	28th September	90,000	130,000	0·1 c.c.	—	,,	,,	,,	,,
28	28th September	110,000	90,000	0 01 c.c.	—	,,	,,	,,	,,
40	1st December	630,000	3,680,000	0·01 c.c.		50·2	29·8	42·8	47·8
42	1st December	280,000	5,920,000	0·01 c.c.	—	,,	,,	,,	,,
43	1st December	.....	6,480,000	0.001 c.c.	—	,,	,,	,,	,,
44	8th December	160,000	liquefied	0·1 c.c.=negative	—	50·7	46·8	45·8	47·5
45	8th December	50,000	liquefied	0·001 c.c.	—	,,	,,	,,	,,
46	8th December	L 10,000	20,000	0.01 c.c.	—	,,	,,	,,	,,
47	8th December	L 10,000	40,000	0·0001 c.c.	—	,,	,,	,,	,,
25	21st September	3,200,000	600,000	0 001 c.c	—	60·1	42·8	57·2	58·5
35	14th November	720,000	680,000	0·001 c.c.		44·1	40·2	46·2	50·8

CARDIFF AND COUNTY PUBLIC HEALTH LABORATORY.

The following tables show the work which has been carried on in the Laboratory during the year 1905.

The Laboratory forms part of the buildings of the University College, Cardiff, and is used for teaching purposes in connection with the Public Health and Bacteriological Departments of the College. It is maintained jointly by the Glamorgan County Council and the Corporation of the City of Cardiff, and the Medical Officers of Health of these Authorities act as Directors of the Laboratory, having the use of it for any bacteriological or chemical investigation connected with their administrative work. The Laboratory is under the immediate supervision of the Bacteriologist, H. A. Schölberg, M.B. (Lond.), D.P.H. (Camb.), and J. H. Sugden, M.Sc., (Vict.). F.I.C., acts as Chemist and Assistant Bacteriologist.

SPECIMENS AND SAMPLES EXAMINED.

Bacteriological Examinations :—		
Suspected Diphtheria	291	
Suspected Typhoid Fever (Serum Diagnosis)	169	
Sputum for Tubercle Bacilli	284	
,, ,, ,, (Notified Cases)	85	
Pus Examinations	58	
Diseased Meat	20	
Milk—General Examinations	72	
,, —for Specific Contamination	3	
Anthrax—Human	1	
,, —Bovine	8	
Other Examinations	28	
	—	1,019
Pathological and Chemical Examinations :—		
Urinalyses	122	
Morbid Growths	29	
Blood Examinations	16	
Milk Examinations	58	
Air (Chemical)	3	
Oil Analyses	4	
Coal Mine Gases	18	
Drainage Waters	5	
Other Examinations	45	
	—	300
		1,319

SAMPLES OF WATER, SEWAGE, AND EFFLUENTS.

Drinking Water :—		
(*a*) Bacteriological Examinations	280	
(*b*) Chemical ,,	209	
Sewage and Sewage Effluents :—		
(*a*) Bacteriological Examinations	46	
(*b*) Chemical ,,	79	
Trade Effluents (Chemical)	97	
	—	711
		2,030

COMPARISON OF THE RECORDS OF 1904 and 1905.

Nature of Examination.	1904.	1905.	Increase.	Decrease.
Suspected Diphtheria	414	291	—	123
Suspected Typhoid Fever	197	169	—	28
Sputum for Tubercle Bacilli	350	369	19	—
Waters, Bacteriological	323	280	—	43
,, Chemical	254	209	—	45
Diseased Meat	31	20	—	11
Anthrax	4	9	5	—
Milk Examinations	9	130	121	—
Sewages and Effluents	250	222	—	28
Other Examinations	346	331	—	15
Totals	2,178	2,030	145	29?
			Decrease ..	148.

The figures submitted above show a decrease of 148 for the year 1905. This is due to the fact that the work of the Laboratory was of necessity suspended after the fire in April, 1905. Had the work been continuous throughout 1905, there would have been an increase on the figures of 1904.

SEAMEN'S LODGING HOUSES.

Total number on register	132
Registered rooms	384
Number of persons certified to accommodate	1,380

INSPECTION OF SEAMEN'S LODGING HOUSES DURING 1905.

Day inspections	2,220
Night inspections	181

Nature of Sanitary Defects found, and of Improvements effected :—

W.c's. supplied with water	36
Defective water closets and drains	50
Defective paving in yards	65
Defective bedroom ventilation	42
Houses with walls and roofs out of repair	42
Houses limewashed	266
Accumulations of refuse	35
Additional w.c.'s provided	10
Soil pipes ventilated	10
Infectious disease discovered	5
Legal proceedings taken	5

COMMON LODGING HOUSES.

Total number on register	33
Registered rooms	143
Number of persons certified to accommodate	702

INSPECTION OF COMMON LODGING HOUSES DURING 1905.

Day inspections	2,665
Night inspections	78

NATURE OF SANITARY DEFECTS FOUND, AND OF IMPROVEMENTS EFFECTED :—

W.c.'s cleansed and repaired	44
Special ventilation provided to rooms	48
Lime-washed	81
Repaired	42
Accumulations removed	31
Yards paved	44
Infectious disease discovered	2

VITAL STATISTICS. POPULATION, &c.—The population of the City, according to the Census enumeration of April, 1901, amounted to 164,333 persons, being an increase of 27·5 per cent. since the Census of 1891 ; the rate of increase being considerably less than that of the preceding inter-censal period, which slightly exceeded 55 per cent. The population of the City, estimated in accordance with the method adopted by the Registrar General, to the middle of the year 1905, was 180,054, and the birth and mortality rates contained in this Report have been calculated on the basis of this estimate. This method of estimating the population of towns at the middle of each year since the last preceding Census is based on the assumption that the same rate of annual increase has continued as during the decennial period ending at the time of that Census. The estimates of population obtained by this method are, of course, only approximately true, and they generally exhibit considerable divergence from the actual truth in the years most remote from the Census. It is probable, however, that the annual estimates of populations in Cardiff since 1901, will be much more accurate than those immediately preceding that year, as they are calculated on the more moderate rate of increase of 27·5 per cent. The extent of this error, and its effect on the calculated rate of mortality, are shown in Table XIV., giving corrected death rates for each year during the inter-censal period 1892-1900, based on the revised estimates made since the publication of the Census of 1901.

In order to check, to some extent, the accuracy of the official estimate of the population, a local enumeration is made annually, in June, of inhabited houses in the district. This number is multiplied by 5·8, the average number of inmates per house, as given in the last Census. The estimated population, based on this method, is given in Table I.

The following Table gives the population of Cardiff, at various ages, estimated to the middle of 1905, in accordance with the method adopted by the Registrar-General.

TABLE IX.

AGES.	PERSONS.	MALES.	FEMALES.
All ages	180,054	89,412	90,642
Under 5 years	22,689	11,183	11,506
5 and under 10 years ..	20,746	10,380	10,366
10 ,, 15 ,, ..	18,641	9,295	9,346
15 ,, 20 ,, ..	17,777	8,597	9,180
20 ,, 25 ,, ..	17,820	8,374	9,446
25 ,, 30 ,, ..	16,478	8,119	8,359
30 ,, 35 ,, ..	14,364	7,261	7,103
35 ,, 40 ,, ..	12,806	6,546	6,260
40 ,, 45 ,, ..	10,458	5,518	4,940
45 ,, 50 ,, ..	8,071	4,236	3,835
50 ,, 55 ,, ..	6,519	3,343	3,176
55 ,, 60 ,, ..	4,751	2,407	2,344
60 ,, 65 ,, ..	3,621	1,772	1,849
65 ,, 70 ,, ..	2,438	1,107	1,331
70 ,, 75 ,, ..	1,569	721	848
75 ,, 80 ,, ..	827	359	468
80 years and upwards ..	479	194	285

MARRIAGES.—The total number of marriages registered during the year 1905 was 1,650, corresponding to a rate of 18·8 persons married per 1,000 living.

The return of the number of marriages in the City of Cardiff during the years 1896—1905, together with the rate of persons married per 1,000 of the population, is given below :—

TABLE X.

YEAR.	NUMBER OF MARRIAGES.	RATE PER 1,000 PERSONS LIVING.
1896	1,721	23·4
1897	1,687	22·4
1898	1,525	19·8
1899	1,719	21·8
1900	1,706	21·1
1901	1,641	19·8
1902	1,677	19·8
1903	1,668	19·3
1904	1,563	17·7
1905	1,650	18·8

BIRTHS.—During the year 1905 the births registered in the City were 5,140; of these, 2,688 were males, and 2,452 females. The number of births corresponded to an annual birth-rate of 28·5 per 1,000 persons living, as compared with 27·2, the birth-rate in England and Wales, and with 28·2, the rate in the 76 large towns, for the same period.

The average annual birth-rate in Cardiff during the 10 years 1895—1904 was 33·7 per 1,000 persons living.

The following table indicates a gradual and progressive decline in the birth-rate in Cardiff, and also an annual decrease in the actual number of births registered since 1902.

The birth-rate, which averaged 41 per 1,000 during the ten years ending 1890, commenced to decline soon after that year, as follows :—

YEAR.	BIRTH-RATE.
1891	36·5 per 1,000
1892	35·3 ,,
1893	36·0 ,,
1894	34·4 ,,
1895	34·1 ,,
1896	34·3 ,,
1897	31·1 ,,
1898	31·1 ,,
1899	28·6 ,,
1900	35·2 ,,
1901	31·4 ,,
1902	31·2 ,,
1903	30·5 ,,
1904	29·5 ,,
1905	28·5 ,,

Throughout the country the birth-rate has of late years declined in a marked manner, as will be seen in the following Table. The decline commenced about the year 1880. The rate which averaged 35·5 per 1,000 of the population from 1861 to 1880 fell as follows :—

Decline in the birth-rate in England and Wales :—

PERIOD.	BIRTH-RATE.
1881—1885	33·5 per 1,000
1886—1890	31·4 ,,
1891—1895	30·5 ,,
1896—1900	29·3 ,,
1901	28·5 ,,
1902	28·6 ,,
1903	28·4 ,,
1904	27·9 ,,
1905	27·2 ,,

TABLE XI.

Showing the number of legitimate and illegitimate births, male and female, and the number of deaths amongst children under one year of age in each Ward, and in the Union Workhouse, during the year 1905 :—

WARDS.	Legitimate.		Illegitimate.		Total.		Total.	Deaths Under one Year.
	M.	F.	M.	F.	M.	F.		
Central Ward	111	143	3	6	114	149	263	34
South ,, ...	139	110	4	5	143	115	258	35
Cathays ,, ...	331	278	11	1	342	279	621	59
Adamsdown ,, ...	214	173	4	3	218	176	394	59
Riverside ,, ...	176	211	1	4	177	215	392	44
Canton ,, ...	362	319	5	8	367	327	694	73
Grangetown ,, ...	409	378	3	3	412	381	793	107
Roath ,, ...	232	199	8	2	240	201	441	46
Park ,, ...	305	279	5	3	310	282	592	42
Splott ,, ...	314	280	3	4	317	284	601	87
Union Workhouse	8	5	40	38	48	43	91	21
TOTAL	2,601	2,375	87	77	2,688	2,452	5,140	607

TABLE XII.

Shows the annual birth-rate per 1,000 in some of the large towns in England and Wales for the 10 years 1896 to 1905, inclusive :—

LARGE TOWNS.	Annual Birth-rate per 1,000 living.									
	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
London	30·2	30·0	29·5	29·4	28·6	29·0	28·5	28·5	28·0	27·1
West Ham	32·6	32·2	30·6	29·7	28·6	35·2	34·1	33·7	32·1	30·5
Croydon	25·1	25·0	25·4	25·1	24·9	26·4	26·1	26·3	26·1	26·4
Brighton	24·7	24·7	24·8	24·9	23·6	24·2	24·3	24·3	23·5	22·9
Portsmouth	27·6	26·9	26·7	26·2	25·7	27·9	27·1	27·9	28·2	27·7
Plymouth	28·8	28·5	29·7	29·8	28·4	26·8	27·0	25·5	25·3	25·6
Bristol	27·6	27·8	28·6	29·2	27·8	27·0	27·5	27·4	26·0	26·9
Swansea	30·5	29·4	28·9	27·7	26·7	30·1	31·1	32·0	30·5	30·9
Wolverhampton	34·4	35·1	35·8	35·3	33·5	31·7	31·6	30·5	29·8	28·7
Birmingham	32·6	33·3	34·0	34·3	32·7	32·1	31·8	31·8	31·5	29·2
Norwich	30·8	30·5	29·9	29·1	28·4	28·4	27·9	27·9	27·6	27·2
Leicester	30·8	30·6	29·6	29·4	28·2	29·0	29·1	27·4	26·6	25·8
Nottingham	28·9	28·9	28·9	28·9	27·7	28·4	27·8	28·3	27·8	26·5
Derby	28·0	27·1	27·4	28·1	26·9	27·8	28·0	27·0	27·2	25·5
Birkenhead	31·7	31·6	30·4	29·9	29·0	29·0	32·7	30·8	33·1	32·0
Liverpool	34·9	35·3	35·2	35·6	36·0	32·1	22·5	33·4	33·5	33·2
Bolton	31·3	32 5	30·9	29·9	34·7	27·5	27·2	27.0	26·9	25·1
Manchester	33·0	33·2	32·7	32·6	32·3	29·1	32·8	32·1	31·3	29·4
Salford	34·9	35·1	34·7	33·9	33·1	29·2	33·8	32·2	31·7	30·5
Oldham	27·2	26·1	25·3	24·8	24·1	24·6	26·1	25·6	24·9	24·3
Burnley	31·0	29·8	27·1	25·3	25·3	27·4	29·1	27·2	27·2	26·5
Blackburn	27·7	27·7	27·1	27·0	25·1	26·5	25·6	25·1	23·5	24·0
Preston	32·6	31·9	31·0	30·1	29·0	30·4	28·9	30·4	28·2	28·1
Huddersfield	20·5	23·4	22·5	23·0	22·8	22·7	24·4	23·8	23·7	23·8
Halifax	24·3	22·5	22·9	23·1	23·1	22·5	21·3	21·1	20·1	19·2
Bradford	25·5	24·6	24·0	23·4	23·1	23·1	23·0	23·3	22·0	21·0
Leeds	30·7	31·6	31·2	30·6	30·4	30·0	29·8	29·4	28·0	27·1
Sheffield	34·0	34·4	33·9	34·6	34·2	33·0	33·4	33·2	31·9	29·7
Hull	31·9	33·3	33·4	34·3	32·9	33·0	32·1	31·3	30·8	29·8
Sunderland	34·2	34·6	35·4	35·7	35·8	35·5	35·9	35·1	34·4	34·2
Gateshead	35·8	35·8	35·5	36·6	36·3	36·8	36·7	35·8	34·4	32·7
Newcastle-on-Tyne	31·1	31·3	31·7	31·4	30·4	32·1	32·6	31·1	30·5	32·1
Cardiff	**38·1**	**35·1**	**35·9**	**33·7**	**35·2**	**31·4**	**31·2**	**30·5**	**29·5**	**28·5**

DEATHS.—The deaths recorded during the year 1905 amounted to 2,443, as compared with 2,740, the average number in the 10 years 1895—1904. So far as it has been possible to ascertain, this number includes the deaths of persons resident in Cardiff, but who died elsewhere, and is exclusive of those brought into the district from outside and dying in Public Institutions within the City of Cardiff.

These deaths (2,443) were equal to an annual death-rate of 13·5 per 1,000 persons living, as compared with 17·2, the average death-rate in the 10 years 1895—1904. The natural increase in the population, or the excess of births over deaths, during the year, amounted to 2,597. The death-rate in 1905 was, therefore, not only considerably below the average, but was the lowest rate recorded since reliable vital statistics were first published—in 1847. The returns of the Registrar General show that in England and Wales the deaths in 1905 were equal to an annual death-rate of 15·2 per 1,000, which is 1·0 per 1,000 below the rate in 1904, and lower than the rate in any other year on record; compared with the average rate in the 10 years 1895—1904, the death-rate in 1905 shows a decrease of 2·0 per 1,000.

In the 76 large towns the death-rate for 1905 averaged 15·7 per 1,000, as compared with 14·4, the rate in 141 smaller towns, and with 14·9, the rate in the rural districts of England and Wales for the same period. The death-rate in Cardiff was thus 1·4 per 1,000 lower than the average rate in the rural districts.

The average death-rate in 33 of the largest towns in the year 1905 ranged from 10·9 per 1,000 in Brighton, 12·5 in Croydon, 13·2 in Leicester, to 18·0 per 1,000 in Oldham and in Manchester, 18·6 in Sunderland, and 19·6 in Liverpool.

In the first quarter of the year 1905 the number of deaths registered in the City of Cardiff, at all ages, and from all causes, was 679, corresponding to an annual death-rate of 15·0 per 1,000 persons living, as compared with 17·2 per 1,000, the average rate in the 76 large towns, and with 17·5, the rate in the corresponding quarter of 1904. The rates in the several towns ranged from 9·2 in Hornsey, 10·7 in Walthamstow, 11·3 in King's Norton, 11·6 in Handsworth, 11·7 in Leyton, and 12·3 in East Ham, to 22·4 in Nottingham, 24·1 in Hanley, 24·8 in Middlesborough, 26·1 in Stockton-on-Tees and 28·0 in Merthyr Tydfil.

Seventy-one deaths in Cardiff were ascribed to the principal infectious diseases, being equal to an annual death-rate from these diseases of 1·5 per 1,000. In the corresponding quarter of 1904 the number of deaths from infectious diseases amounted to 85, and the death-rate to 1·9 per 1,000. The average death-rate from the principal infectious diseases in the 76 large towns in the first quarter of the year was 1·4 per 1,000, ranging from 0·2 in Brighton to 4·7 in Rhondda.

The infant mortality in the first quarter, as measured by the proportion of deaths under one year of age to 1,000 births registered, was 119 per 1,000, as compared with 156 in the corresponding quarter of 1904, and with 127, the average in the 76 large towns.

In the second quarter of the year the number of deaths at all ages, and from all causes, was 591, corresponding to an annual death-rate of 13·1 per 1,000 persons living, as compared with 14·7, the average rate in the 76 large towns, and with 13·2, the rate in the corresponding quarter of 1904. The rates in the several towns ranged from 7·1 in Hornsey, 8·4 in Leyton, 8·7 in King's Norton, 9·4 in Handsworth, 9·8 in Willesden, and 9·9 in East Ham, to 18·5 in West Bromwich, 19·5 in Oldham, 20·0 in Tynemouth, 21·4 in Middlesborough, and 22·4 in Merthyr Tydfil.

Sixty-seven deaths in Cardiff were ascribed to the principal infectious diseases, being equal to an annual death-rate from these diseases of 1·4 per 1,000. In the corresponding quarter of 1904, the number of deaths from infectious diseases amounted to 61, and the death-rate to 1·3 per 1,000. The average death-rate from the principal infectious diseases in the 76 large towns in the second quarter of the year was 1·4 per 1,000, ranging from 0·1 in Great Yarmouth to 6·1 in West Bromwich.

The infant mortality in the second quarter was 108 per 1,000 births, as compared with 111 in the corresponding quarter of 1904, and with 112, the average in the 76 large towns.

In the third quarter of the year the number of deaths registered, at all ages, and from all causes, was 518, corresponding to an annual death-rate of 11·5 per 1,000 persons living, as compared with 15·1, the average rate in the 76 large towns, and with 14·2, the rate in the corresponding quarter of 1904. The rates in the several towns ranged from 6·4 in Hornsey, 7·4 in King's Norton, 8·3 in Handsworth, 9·0 in Burton-on-Trent, to 19·8 in Merthyr Tydfil, 19·9 in Liverpool, 20·1 in Bootle, and 22·5 in Rhondda.

Fifty-three deaths in Cardiff were ascribed to the principal infectious diseases, being equal to an annual death-rate from these diseases of 1·1 per 1,000. In the corresponding quarter of 1904 the number of deaths from infectious diseases amounted to 136, and the death-rate to 3·0 per 1,000. The average death-rate from the principal infectious diseases in the 76 large towns in the third quarter of the year was 3·4 per 1,000, ranging from 0·4 in Hornsey to 7·6 in Grimsby.

The infant mortality in the third quarter of the year was 120 per 1,000 births, as compared with 177 in the corresponding quarter of 1904, and with 183, the average in the 76 large towns.

In the fourth quarter of the year the number of deaths registered at all ages, and from all causes, was 589, corresponding to an annual death-rate of 13·0 per 1,000 persons living, as compared with 15·7, the average rate in the 76 large towns, and with 14·2, the rate in the corresponding quarter of 1904. The rates in the several large towns ranged from 7·6 in Hornsey, 8·9 in King's Norton, 10·7 in Hastings, to 19·3 in Preston, 20·3 in Bootle, and 20·4 in Liverpool.

Twenty-five deaths in Cardiff were ascribed to the principal infectious diseases, being equal to an annual death-rate from these diseases of 0·5 per 1,000. In the corresponding quarter of 1904, the number of deaths from infectious diseases was 37, and the death-rate 0·84 per 1,000. The average death-rate from the principal infectious diseases in the 76 large towns in the fourth quarter of the year was 1·27 per 1,000, ranging from 0·31 in Handsworth, 0·34 in Brighton, 0·35 in Hornsey, to 2·34 in Wolverhampton, 2·92 in Blackburn, and 3·98 in Preston.

The infant mortality in the fourth quarter was 124 per 1,000 births, as compared with 132 in the corresponding quarter of 1904, and with 133 the average in the 76 large towns.

The following interesting extract is taken, with permission, from the Annual Report for 1905 of the Medical Officer of Health for Gateshead :—

> "On looking at the Birth-rate and Death-rate of a town for comparative purposes, there does not seem to be enough to indicate its healthiness or otherwise. If, however, we treat it from a business aspect, we get, in my opinion, a fair insight into the truth. While the magnitude of a business is indicated by its imports and exports, yet the true value of a business is only found by a careful study of its profit and loss account, and so with the health of a town. Its births are its imports and its deaths its exports, and that town which, other things being equal, shows the fewest exports, also shows the largest profits. Viewing it from this light only 5 of the 33 great towns have a death rate under 50% of their births, and in this list Gateshead ranks third, being beaten only by Cardiff and Croydon.
>
> | | | | | |
> |---|---|---|---|---|
> | Cardiff's | Death-rate is | 46.6% | of its | Birth-rate. |
> | Croydon's | ,, | 47·2% | ,, | ,, |
> | Gateshead's | ,, | 47·9% | ,, | ,, |
> | Birkenhead's | ,, | 48·0% | ,, | ,, |
> | West Ham's | ,, | 48·3% | ,, | ,, |
>
> The remaining 28 great towns all show over 50% of deaths to births."

TABLE XIII.

Shows the annual death-rates per 1,000 in some of the large towns in England and Wales for the 10 years, 1896—1905, inclusive :—

Large Towns.	Annual death-rate per 1,000 living.									
	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
London	18·6	18·2	18·7	19·8	18·8	17·6	17·7	15·7	16·1	15·6
West Ham	16·1	15·7	15·4	16·7	15·9	18·0	17·1	15·3	16·7	15·5
Croydon	14·2	13·1	13·9	15·0	14·6	12·9	14·0	11·8	13·8	12·7
Brighton	16·1	15·1	16·9	19·0	17·8	16·5	15·8	14·3	16·6	10·9
Portsmouth	16·6	16·2	16·3	19 7	17·3	17·9	16·8	14·7	16·8	16·6
Plymouth	19·6	19·0	19·5	21·7	20·8	17·9	17·0	16·5	18·7	16·8
Bristol	16·9	17·2	17·2	18·2	16·7	16·0	17·4	14·3	15·4	14·7
Swansea	16·8	15·8	18·6	18·1	17·1	18·6	16·1	18·6	17·7	16·5
Wolverhampton	20·0	22·5	21·3	21·8	22·5	16·9	16·4	15·5	14·6	14·8
Birmingham	20·8	21·6	20·0	20·8	21·5	20·5	18·6	17·8	19·3	16·1
Norwich	17·4	18·8	19·0	17·3	17·6	18·7	16·7	15·2	18·2	16 5
Leicester	16·7	17·7	16·9	17·7	17·4	15·9	14·9	14·2	14·5	13·4
Nottingham	17·5	18·8	17·7	20·0	19·1	18·5	16·9	16·9	17·5	16·6
Derby	15·7	16·0	16·8	16·9	17·5	15·2	13·9	13·6	15·1	15·0
Birkenhead	19·2	18·3	17·4	19·2	16·8	18·7	17·7	16·8	19·8	15·3
Liverpool	22·7	24·4	24·0	26·4	25·7	22·3	22·5	20·5	21·9	19·2
Bolton	20·7	22·0	19·4	19·9	19·5	18·2	16·9	17·5	16·9	15·4
Manchester	22·6	23·1	21·9	24·6	24·1	22·1	20·0	19·7	21·3	18·0
Salford	22·6	23·9	22·7	23·8	25·1	21·7	19·3	19·0	21·0	17·1
Oldham	20·3	19·2	17·6	20·5	19·6	19·6	19·1	18·6	18·3	18·8
Burnley	11·5	19·5	16·3	19·6	16·3	19·0	19·5	19·2	20·0	16·5
Blackburn	17·9	19·5	18·4	19·1	20·5	19·5	16·9	15·7	17·2	16·4
Preston	20·8	24·4	19·3	22·8	24·0	21·0	19·1	18·7	17·8	16·4
Huddersfield	16·5	16·4	15·9	16·2	16·8	16·7	17·8	16·7	17·5	16·9
Halifax	17·3	16·5	17·9	18·3	18·1	16·4	15·7	15·0	15·5	15·3
Bradford	16·5	17·5	17·6	18·4	16·4	16·8	15·8	16·4	17·5	15·1
Leeds	18·8	19·9	19·2	19·1	20·0	19·3	17·6	16·6	17·9	15·3
Sheffield	19·3	21·2	20·2	22·2	22·6	20·4	17·1	18·6	16·8	17·0
Hull	18·9	18·6	18·4	19.3	19·7	18·6	17·2	16·9	18·0	16·0
Sunderland	19·8	19·7	22·6	21·5	21·4	21·4	19·5	19·9	19·4	18·6
Gateshead	19·1	18·3	20·6	18·8	19·0	21·6	17·7	16·7	18·5	15·5
Newcastle-on-Tyne ...	18·5	19·1	21·4	20·6	19·5	21·9	19·9	19·2	19·4	16·8
Cardiff	**19·0**	**16·8**	**17·0**	**18·1**	**16·5**	**15·7**	**16·9**	**14·4**	**15·2**	**13·2**

TABLE XIV

Shows the population of each year, the annual deaths from all causes, from the seven chief zymotic diseases, and the death-rates from 1852 to 1905. inclusive, in the City of Cardiff :—

Year.	Population.	All Causes.			Seven Chief Zymotic Diseases.		
		No. of Deaths.	Death Rates per 1,000.	Mean of 10 years.	No. of Deaths.	Death Rates per 1,000.	Mean of 10 years.
1852	19,724	620	31·4		175	8·8	
1853	21,094	644	30·5		129	6·1	
1854	22,464	925	41·1		353	15·7	
1855	23,834	641	26·9		71	2·7	
1856	25,204	772	30·6	29·2	136	5·3	6·3
1857	26,574	883	33·2		234	8·8	
1858	27,944	753	26·9		128	4·5	
1859	29,314	826	28·1		212	7·2	
1860	30,684	662	21·5		95	3·0	
1861	32,054	837	26·1		100	3·1	
1862	32,804	695	21·2		132	4·0	
1863	33,552	862	25·7		268	7·0	
1864	34,300	932	27·1		250	7·3	
1865	35,048	867	24·7		161	4·5	
1866	35,796	882	24·6	24·2	192	5·3	4·6
1867	36,544	873	23·8		116	3·1	
1868	37,292	843	22·6		109	2·9	
1869	38,040	1,005	26·4		156	4·1	
1870	38,788	903	23·2		133	3·4	
1871	39,356	891	22·5		158	3·9	
1872	40,284	916	22·7		234	5·8	
1873	41,032	995	24·2		103	2·5	
1874	41,780	885	21·2		154	3·6	
*1875	69,850	1,547	22·1		294	4·2	
1876	72,438	1,455	20·8	20·0	339	4·6	3·2
1877	75,026	1,475	19·6		255	3·5	
1878	77,614	1,468	18·9		197	2·5	
1879	80,202	1,428	17·6		137	1·7	
1880	82,790	1,634	19·7		306	3·7	
1881	85,378	1,556	18·2		164	1·9	
1882	88,603	1,724	19·4		293	3·3	
1883	91,204	1,807	19·8		253	2·7	
1884	93,468	2,250	24·3		476	5·0	
1885	97,034	2,481	25·5		521	5·3	
1886	100,736	2,269	22·5	21·5	532	3·2	3·3
1887	104,580	2,280	21·8		278	2·6	
1888	108,570	2,212	20·3		324	2·9	
1889	112,712	2,190	19·4		248	2·1	
1890	117,012	2,469	21·1		282	2·4	
1891	130,283	2,873	22·0		272	2·0	
1892	132,895	2,560	19·2		371	2·7	
1893	136,168	2,794	20·4		408	2·9	
1894	139,519	2,415	17·3		257	1·8	
1895	142,958	2,840	19·9		324	2·2	
1896	146,479	2,795	19·0	17·9	362	2·4	2·3
1897	150,087	2,534	16·8		371	2·4	
1898	153,783	2,627	17·0		396	2·5	
1899	157,414	2,858	18·1		384	2·4	
1900	161,452	2,667	16·5		402	2·4	
1901	165,308	2,653	16·0		284	1·7	
1902	168,909	2,865	16·9		459	2·6	
1903	172,598	2,496	14·4		232	1·3	
1904	176,313	2,695	15·2		320	1·8	
1905	180,054	2,443	13·5		216	1·1	

* Canton and Roath taken into the City.

Populations and death-rates as estimated by the Registrar-General previous to the Census of 1901 :—

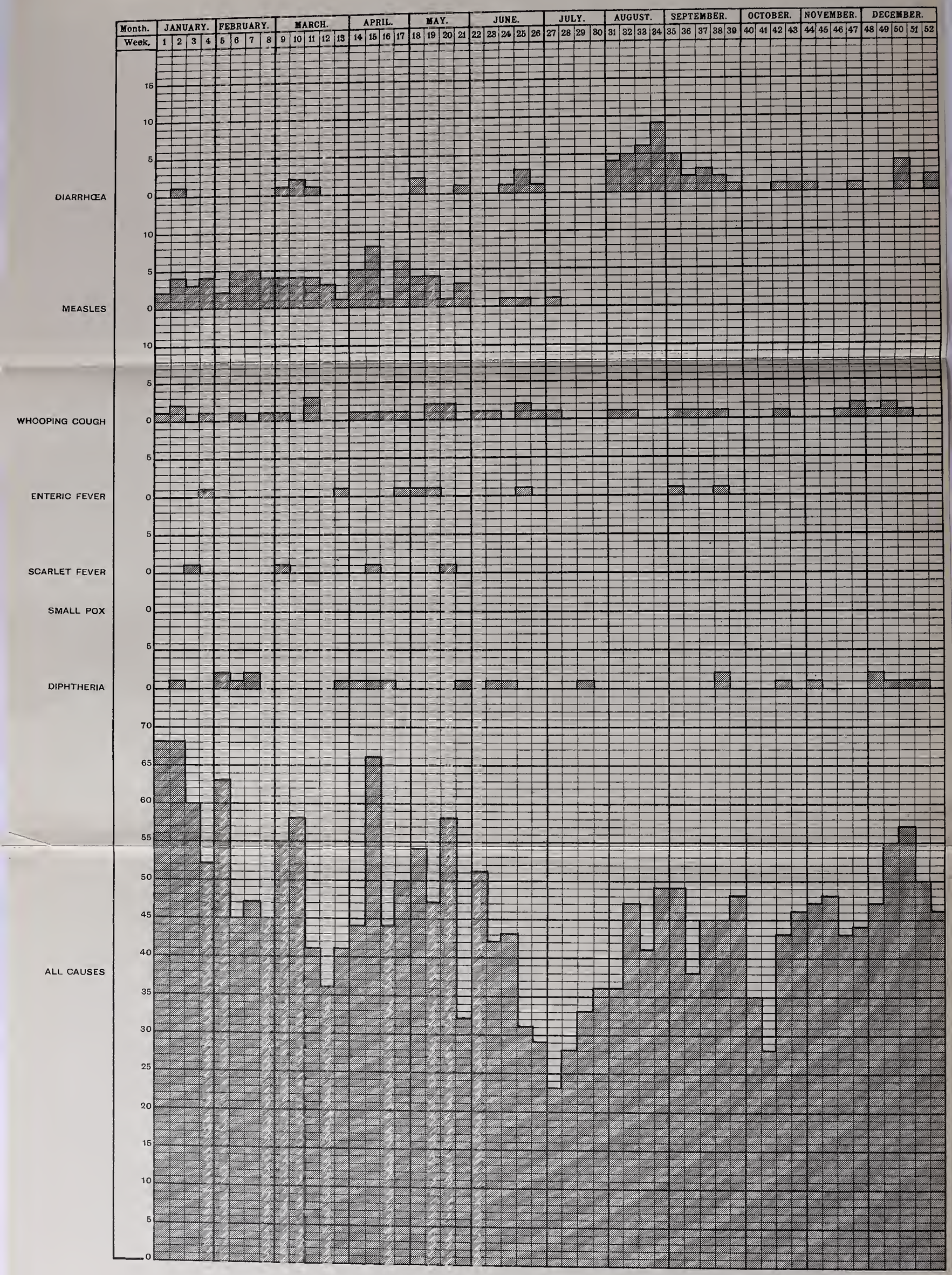
YEAR.	ESTIMATED POPULATION.	DEATH-RATE.	YEAR.	ESTIMATED POPULATION.	DEATH-RATE.
1892	136,181	18·7 per 1,000	1897	170,063	14·9 per 1,000
1893	142,435	19·6 ,,	1898	170,770	14·8 ,,
1894	148,890	16·2 ,,	1899	185,826	15·3 ,,
1895	155,637	18·2 ,,	1900	194,247	13·7 ,,
1896	162,690	16·8 ,,			

TABLE XV.—Analysis of Deaths in the City of Cardiff, in the Registration Sub-Districts, and in each Ward in the City, during the Year 1905.

LOCALITIES.	Population, 1905.	Area in Acres.	Persons per Acre.	Total Births.	Birth-rate.	*Total Deaths.	Death-rate.	Deaths under One Year per 1,000 Births registered.	Seven Chief Zymotic Diseases.		Principal Zymotic Dsseases.																Tabes Mesenterica, Tubercular Meningitis, and other forms of Tuberculosis.		Phthisis.		Diseases of Respiratory Organs.	
									Deaths.	Death-rate.	Small-pox.		Measles.		Scarlet Fever.		Diphtheria.		Whooping Cough.		Typhoid Fever.		Typhus Fever.		Diarrhœa.							
											Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.
City of Cardiff	180,054	6,373	28	5,140	28·5	2,377	13·2	118	216	1·19	..	..	80	0·44	4	0·02	23	0·12	38	0·21	8	0·04	..	..	63	0·34	97	0·53	231	1·28	420	2·33
West Cardiff Registration Sub-District.																																
Canton Ward ..	23,745	..	..	694	29·2	234	9·8	105	26	1·09	..	..	9	0·37	..	..	..	..	9	0·37	..	..	..	..	8	0·33	11	0·46	28	1·17	34	1·43
Riverside Ward ..	17,927	..	..	392	21·8	170	9·4	112	18	1·00	..	..	5	0·28	..	..	3	0·16	3	0·16	1	0·05	..	..	6	0·33	3	0·16	18	1·00	39	2·17
Grangetown Ward ..	19,679	..	..	793	40·2	283	14·3	134	37	1·88	..	..	19	0·96	..	..	3	0·15	4	0·20	..	..	..	..	11	0·55	24	1·21	24	1·21	50	2·54
West Cardiff	61,351	2,060	29	1,879	30·6	687	11·1	119	81	1·32	..	..	33	0·53	..	..	6	0·09	16	0·26	1	00·1	..	..	25	0·40	38	0·61	70	1·14	123	2·00
Central Cardiff Registration Sub-District.																																
South Ward ..	10,759	..	..	258	23·9	140	13·0	135	8	0·74	..	..	2	0·18	..	..	..	..	..	..	1	0·09	..	..	5	0·46	6	0·55	14	1·30	32	2·97
Central Ward ..	11,173	..	..	263	23·5	157	14·0	129	17	1·52	..	..	5	0·44	..	..	1	0·08	1	0·08	..	..	..	..	10	0·89	3	0·26	16	1·43	29	2·59
Cathays Ward ..	21,573	..	..	621	28·7	218	10·1	95	16	0·74	..	..	6	0·27	..	..	1	0·04	6	0·27	..	..	..	..	3	0·13	11	0·50	19	0·88	35	1·62
Adamsdown Ward ..	12,556	..	..	394	31·3	222	17·6	149	24	1·91	..	..	11	0·87	..	..	2	0·15	4	0·31	1	0·07	..	..	6	0·47	7	0·55	12	0·95	38	3·02
Central Cardiff	56,061	3,832	14	1,536	27·3	737	13·1	121	65	1·15	..	..	24	0·42	..	..	4	0·07	11	0·19	2	0·03	..	..	24	0·42	27	0·48	61	1·08	134	2·39
East Cardiff Registration Sub-District.																																
Splott Ward ..	16,582	..	..	601	36·2	208	12·5	144	20	1·20	..	..	9	0·54	..	..	1	0·06	6	0·36	..	.	..	..	4	0·24	9	0·54	16	0·96	47	2·83
Roath Ward ..	16,048	..	..	441	27·4	183	11·4	104	15	0·93	..	..	10	0·62	..	..	1	0·06	3	0·18	..	..	..	..	1	0·06	10	0·62	18	1·12	31	1·93
Park Ward	25,815	..	..	592	22·9	230	8·8	70	13	0·50	..	..	3	0·11	..	..	1	0·03	2	0·07	1	0·03	..	..	6	0·23	8	0·30	23	0·89	48	1·85
East Cardiff	58,445	481	121	1,634	27·9	621	10·6	107	48	0·82	..	..	22	0·37	..	..	3	0·05	11	0·18	1	0·02	..	..	11	0·18	27	0·46	57	0·97	126	2·15
Infectious Diseases Hospital..	162	..		..	..	19	..	..	18	..	..	..	1	..	4	..	9	..	..	..	4	..	..	..	..	..	1	..	..	..	..	..
Union Workhouse	880	..	..	91	..	224	..	230	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	4	..	42	..	30	..
Infirmary	175	..	..	..	..	85	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	6	..
Royal Hamadryad Seamen's Hospital	49	..	.	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..

* Actual number of deaths of residents within the City.

Deaths from all Causes, and the Seven Zymotic Diseases, in Cardiff during 1905.



INFANT MORTALITY.—The following Table shows the rate of infant mortality which has prevailed in the large towns in past years :—

TABLE XVI.

Towns.	Deaths under one year to 1,000 Births registered.									
	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
London	161	158	167	167	160	149	141	131	144	131
West Ham	165	171	170	197	189	171	149	146	165	156
Croydon	150	134	150	154	132	141	132	108	129	96
Brighton	135	142	181	173	166	161	125	114	133	100
Portsmouth	154	168	156	197	155	163	152	114	145	133
Plymouth	178	183	170	190	175	149	155	144	173	136
Bristol	142	148	164	158	133	131	131	116	133	122
Swansea	161	139	184	166	175	174	135	165	172	131
Wolverhampton	184	217	200	184	206	163	134	141	152	136
Birmingham	197	214	191	191	199	187	157	159	195	155
Norwich	164	196	192	179	178	183	167	150	180	174
Leicester	187	205	191	195	175	175	153	160	163	146
Nottingham	168	205	178	210	196	193	159	165	175	155
Derby	151	167	169	162	174	154	125	128	143	151
Birkenhead	177	162	186	186	160	181	148	156	180	127
Liverpool	173	200	184	198	186	188	163	159	196	154
Bolton	168	186	168	181	171	172	134	152	167	166
Manchester	176	194	197	206	189	199	152	169	187	157
Salford	199	220	212	209	207	204	157	167	193	150
Oldham	184	183	175	198	172	173	148	160	155	150
Burnley	170	219	195	269	205	226	177	217	232	173
Blackburn	171	207	206	189	220	193	159	157	191	146
Preston	203	263	225	255	236	216	189	161	183	150
Huddersfield	166	130	153	152	132	132	138	120	136	119
Halifax	149	139	163	159	132	127	144	122	130	130
Bradford	143	178	185	181	141	168	139	148	166	144
Leeds	169	191	182	171	183	188	159	153	176	152
Sheffield	173	197	195	194	200	201	150	182	159	167
Hull	173	178	182	175	183	175	137	162	181	153
Sunderland	158	163	202	175	169	182	147	157	165	143
Gateshead..	172	173	208	177	169	197	136	159	174	138
Newcastle-on-Tyne	165	177	190	193	170	178	139	165	156	135
Cardiff	**165**	**150**	**158**	**164**	**141**	**148**	**145**	**122**	**144**	**118**

The infant mortality in Cardiff during the year 1905 compares very favourably with that in previous years, and is, in fact, the lowest on record. The rate of infant mortality is calculated as the number of deaths of infants under one year to 1,000 births registered. This number was 118, as compared with 144 in the year 1904, and with 153 in the 10 years 1895—1904.

The rate of infant mortality per 1,000 births in England and Wales in the year 1905 was as follows :—

	Deaths of infants under 1 year per 1,000 births.
England and Wales	146
Rural England and Wales	125
70 great towns	160
142 smaller towns	154
Cardiff	118

The following Table shows the rate of infant mortality in England and Wales since 1876 :—

Periods.	Deaths under 1 year to 1,000 births.
1876—1880	144
1881—1885	138
1886—1890	145
1891—1895	150
1896—1900	156
1901	151
1902	133
1903	132
1904	146
1905	146

The rate of infant mortality in the 33 large towns, as compared with that of Cardiff during successive periods, is shown in the following Table :—

33 LARGE TOWNS.		CARDIFF.	
Period.	Deaths under 1 year to 1,000 births.	Period.	Deaths under 1 year to 1,000 births.
1881—1890	162	1881—1890	165
1891—1900	172	1891—1900	161

From the foregoing Tables it is seen that the rate of infant mortality is practically stationary in England and Wales as a whole, and that in the large towns an actual increase is shown in the 10 years ending 1900, as compared with the 10 years ending 1890. In Cardiff, there has been a slight decrease in this rate during the same period. This decrease has continued since 1900, and in 1905 the rate is one of the lowest amongst the large towns, and is even lower than the average rate for the rural districts of England and Wales. It is seen also that the rate of infant mortality is much higher in the larger urban districts than in the rural districts. The ever-increasing urbanisation of the population is therefore injuriously affecting the lives of infants. It is shown in the following Table, supplied by Dr. Tatham to the Inter-Departmental Committee on Physical Deterioration, that whilst there is a slight increase in the mortality in the large urban districts, there is a slight decrease in the rural districts.

TABLE XVII.

(From Dr. Tatham's return.)

Average rate of infantile mortality per 1,000 births :—

Years.	Urban Counties.		Rural Counties.	
	Males.	Females.	Males.	Females.
1873—1877	176	146	140	113
1898—1902	180	149	139	111

It is of importance to note also that the rate of infantile mortality in England compares unfavourably with that of Scotland and Ireland, and still more so with that of Denmark, Norway, and Sweden. The rate also varies considerably amongst the large towns in England and Wales, as shown in Table XVI., the mortality being much higher in large and crowded manufacturing districts, such as Manchester, Salford, Liverpool, and Preston, than in such places as Croydon, Hornsey, and Hastings. Climatic conditions are doubtless largely concerned with the varying rate of infant mortality in the different countries, and in a lesser degree with that in the different parts of the United Kingdom. But it would seem that the increasing aggregation of populations in large industrial centres, and

the consequent unfavourable and unhealthy conditions of living, and other attendant evils in these districts, are the most important influences which contribute to this comparatively high death-rate amongst infants. Some indications of the preventive measures which are required is afforded by an examination of the chief and immediate causes of death amongst infants under one year of age. So far as urban districts are concerned, these may be stated in order, as follows :—Diarrhœa, atrophy, premature birth, meningitis and convulsions, bronchitis, and pneumonia.

In Cardiff, during the year 1905, the chief causes of death amongst infants were as follows :—

Causes of death.	Number of deaths of infants under 1 year of age.
Atrophy and debility	75
Premature birth	74
Convulsions	64
Pneumonia	56
Diarrhœa	52
Bronchitis	43
Enteritis and gastritis	33

As usual, diarrhœa is responsible for a large number of deaths of young infants, most of which occur during the third quarter of the year, or summer months. The fatality is generally most pronounced in the month of August, the variations in the rate depending largely upon the temperature of the air and the soil. The comparatively low rate during the year must be attributed in part to the fact that the mean temperature was below, and the rainfall was rather above, the average. Much of this infantile diarrhœa is preventible, being the result of ignorance on the part of mothers and of those having charge of young children. Want of care in the preparation and storage of milk, and of other perishable, and for the most part unsuitable articles of diet, being largely concerned in the production of intestinal disorders. The period during the first year of life in which the highest mortality from all causes occurred is shown in the Local Government Board Table V., in the Appendix to this report. In bottle-fed babies, diarrhœa is very commonly the result of using impure or stale cows milk, or of the too early and excessive use of starchy foods ; and the employment of a suitable dietary, and proper care and cleanliness in the administration of the food. will usually restore the health of the child.

During the past few years I have instituted an inquiry into the nature of the food given to young infants. The results of this inquiry are given below. They are doubtless subject to errors, due to incorrect information and to other causes, but as a rough approximation to the truth they are of some interest, and would appear to indicate that only about 50 per cent. of the infants in Cardiff are fed entirely from the breast during the first two months of their life.

The following Table shows the nature of the food of 470 infants visited within two months of birth :—

Breast fed entirely	206
Breast fed and other food	117
Condensed milk only	53
Condensed milk and other food	72
Cows milk only	6
Cows milk and other food	16
	470

TABLE XVIII.

The following Tables show the distribution of mortality from the chief zymotic diseases, from phthisis, from diseases of the respiratory organs, and from other causes, in each street in the City, during the year 1905 :—

CENTRAL WARD.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Typhoid Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Blackweir	..	..	..	1	1	..	1	1	3	2	9
Bridge Street	..	..	..	..	..	..	..	..	2	3	5
Bute Street .. .	..	..	..	.	..	..	..	..	..	2	2
Bute Terrace .. .	..	..	..	..	..	..	1	..	..	..	1
Canal Street	..	1	..	.	..	..	2	..	2	3	8
Caroline Street	..	..	..	..	..	..	1	..	..	..	1
Carpenters Arms Court ..	..	..	..	..	..	..	..	..	1	1	2
Castle Street	..	..	..	..	..	..	..	..	..	1	1
Charles Street	..	..	..	..	..	..	..	..	..	1	1
Charlotte Street	..	..	..	..	..	..	..	..	..	1	1
Church Street	..	..	..	..	..	..	..	..	..	1	1
Colum Road . ..	..	..	..	..	..	..	..	..	..	3	3
Corbett Road	..	..	..	..	..	..	..	..	..	1	1
David Street	..	..	..	..	..	..	1	..	..	2	3
Dumfries Place	..	..	..	..	..	..	..	..	..	1	1
Ebenezer Street	..	..	..	..	..	..	..	1	..	..	1
Edward Street	..	..	..	..	..	..	..	..	..	3	3
Eisteddfod Street . ..	..	..	..	..	..	..	..	1	2	1	4
Frederick Street	..	..	..	..	..	..	..	..	2	8	10
Friends Place	..	..	..	..	..	..	..	..	..	1	1
Glamorgan Canal	..	..	..	..	..	..	..	..	..	2	2
Gough Street	..	1	..	..	..	..	..	..	..	3	4
Guildford Crescent ..	..	..	..	..	..	..	..	..	..	1	1
Harris Court	..	..	..	..	..	..	..	..	..	3	3
Havelock Street	..	..	..	..	..	..	1	..	1	1	3
Hill's Terrace	..	..	..	..	..	..	2	..	3	3	8
Little Frederick Street ..	..	1	..	..	..	..	1	..	1	3	6
Little Union Street ..	..	..	..	..	..	..	..	..	..	1	1
Love Lane	..	..	..	..	..	..	..	..	1	..	1
Mary Ann Street . ..	..	..	..	..	..	..	..	1	1	5	7
Millicent Street	..	..	..	..	..	.	..	1	1	2	4
Nazareth House	..	..	..	..	..	..	..	3	1	9	13
Park Grove	..	..	..	..	..	..	..	..	..	1	1
Park Place	..	..	..	..	..	..	..	1	..	1	2
Park Street	..	..	..	..	..	..	..	1	..	3	4
Pembroke Terrace . ..	..	..	..	..	..	..	..	..	1	..	1
Police Station	..	..	..	..	.	..	..	..	..	1	1
Queen Street	..	..	..	..	..	..	..	..	..	1	1
Raven Street	..	..	..	..	..	..	..	..	1	..	1
Roberts' Court	..	..	..	..	..	..	..	1	..	..	1
Rodney Street	..	..	..	..	..	..	..	1	1	..	2
Rowe's Square	.	..	..	..	..	..	..	..	..	2	2
Ruperra Street	..	..	..	..	..	..	..	..	2	..	2
Scott Street	..	..	..	..	..	..	..	..	1	2	3
Station Terrace	..	..	..	..	..	..	..	..	..	1	1
St. Andrew's Crescent ..	..	..	..	..	..	..	..	..	..	2	2
St. Andrew's Place ..	..	..	..	..	..	..	..	..	..	1	1
St. Mary Street	..	1	..	..	..	..	..	..	2	3	6
Tredegar Street	..	..	..	..	..	..	..	1	..	3	4
Union Street	..	1	..	..	..	..	..	2	..	3	6
Wood Street	..	..	..	..	..	..	..	1	..	2	3
Working Street	..	..	..	..	..	..	..	..	..	1	1
Totals	..	5	..	1	1	..	10	16	29	95	157

SOUTH WARD.

NAME OF STREET.	Small pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Typhoid Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Adelaide Street	..	..	..	..	..	..	..	..	2	1	3
Angelina Street	..	..	..	..	..	..	1	..	..	1	2
Alice Street	..	..	..	.	..	..	1	1	1	2	5
Allen's Arch	..	1	..	..	..	..	..	..	..	..	1
Burt Street	..	..	..	..	..	..	..	..	..	3	3
Bute Esplanade	..	..	..	..	..	..	..	..	..	1	1
Bute Place	..	..	..	..	..	..	..	..	..	1	1
Bute Street	..	..	..	..	..	..	..	2	2	7	11
Christina Street	..	..	..	..	..	..	..	1	2	4	7
Clarence Embankment ..	..	..	..	..	..	..	..	..	1	3	4
Clarence Place	..	..	..	..	..	..	..	..	..	1	1
Crawshay Street	..	..	..	..	..	..	..	1	..	..	1
Crichton Place	..	..	..	..	..	..	..	..	1	1	2
Crichton Street	..	..	..	..	..	..	..	1	..	3	4
Dudley Street . ..	..	..	..	..	..	..	..	..	1	..	1
East Wharf	..	..	..	..	..	..	..	..	..	1	1
Eleanor Street	..	..	..	..	..	..	..	..	..	2	2
Evelyn Street	..	..	..	..	..	..	1	3	3	5	12
Francis Street	..	..	..	..	..	..	..	..	..	3	3
George Street	..	..	..	..	..	..	..	..	1	1	2
Glamorgan Canal	..	..	..	..	..	..	..	..	..	5	5
Hannah Street	..	..	..	..	.	..	..	1	1	3	5
Harrowby Place	..	..	..	..	..	..	..	..	..	1	1
Harrowby Street	..	..	..	..	..	..	..	..	1	2	3
Henry Street	..	..	..	..	..	1	..	..	1	..	2
Herbert Street	..	..	..	..	..	..	..	1	3	4	8
Hunter Street	..	..	..	..	..	..	1	..	..	1	2
James Street	..	..	..	..	..	..	..	..	2	1	3
John Street	..	..	..	..	..	..	1	..	1	1	3
Loudoun Place	..	..	..	..	..	..	..	..	..	1	1
Loudoun Square	..	..	..	..	..	..	..	..	2	2	4
Louisa Street	..	..	..	..	..	..	..	..	1	2	3
Margaret Street	..	..	..	..	..	..	..	..	..	2	2
Maria Street	..	1	..	..	..	..	..	..	..	..	1
Mount Stuart Square ..	..	..	..	..	..	..	..	1	..	1	2
Nelson Street	..	..	..	..	..	..	..	..	1	..	1
North Church Street ..	.	..	..	..	..	..	..	..	..	2	2
Patrick Street	..	..	..	..	..	..	..	1	..	..	1
Peel Street	..	..	..	..	..	..	..	1	..	4	5
Penarth Road	..	..	..	..	..	..	..	..	1	..	1
Penarth Terrace	..	..	..	..	..	..	..	..	1	..	1
Percy Street	..	..	..	..	..	.	..	..	..	1	1
Pomeroy Street	..	..	..	..	..	..	..	..	..	3	3
Royal Hamadryad Seamen's Hospital ..	..	..	..	..	..	..	..	1	1	2	4
South Church Street ..	..	..	..	..	..	..	..	.	..	3	3
South William Street ..	..	..	..	..	..	..	..	..	1	..	1
Sophia Street	..	..	..	..	..	..	..	..	..	4	4
Stuart Street	..	..	..	..	..	..	..	..	1	1	2
Tresillian Terrace	..	..	..	..	..	..	..	..	1	..	1
West Bute Street	..	..	..	..	..	..	..	..	..	1	1
Windsor Esplanade ..	..	..	..	..	..	..	..	..	..	1	1
Totals ..	..	2	..	..	..	1	5	15	33	88	144

CATHAYS WARD.

NAME OF STREET.	Small-pox	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Typhoid Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Alexandra Street ..	..	..	..	..	..	..	..	1	..	1	2
Allen's Bank Road	..	..	..	..	..	..	..	..	..	4	4
Barracks ..	..	..	..	..	..	..	..	..	1	1	2
Brithdir Street	..	..	..	..	2	..	..	..	..	..	2
Bruce Street	..	..	..	..	1	..	..	..	1	..	2
Cairns Street	..	..	..	1	1	..	..	1	5	18	26
Cathays Terrace	..	..	..	..	..	..	..	3	1	13	17
Catherine Street	..	..	..	..	..	..	..	..	1	2	3
Cemetery	..	..	..	..	..	..	..	..	..	1	1
Clun Terrace	..	..	..	..	..	..	..	..	..	1	1
Coburn Street	..	..	..	..	..	..	1	1	1	1	4
Cogan Terrace	..	..	..	..	..	..	..	..	..	1	1
Cranbrook Street	..	..	..	..	..	..	..	..	..	2	2
Crwys Road	..	..	..	..	..	..	..	1	..	3	4
Cwmdare Street	..	..	..	..	..	..	..	..	1	3	4
Dalton Street	..	..	..	..	..	..	..	..	..	1	1
Daniel Street	..	..	..	..	1	..	..	..	..	2	3
Darran Street	..	..	..	..	..	..	..	..	..	1	1
Dogfield Street	..	..	..	..	..	..	..	..	..	3	3
Fitzroy Street	..	..	..	..	..	..	..	..	1	1	2
Flora Street	..	1	..	..	..	..	..	1	..	4	6
Florentia Street	..	..	..	..	..	..	..	..	..	1	1
Glynrhondda Street	..	..	..	..	..	..	..	..	..	1	1
Gwennyth Street	..	..	..	..	..	..	..	1	..	..	1
Harriett Street	..	1	..	..	..	..	..	..	2	4	7
Hirwain Street	..	..	..	..	..	..	..	..	1	2	3
Letty Street	..	..	..	..	1	..	..	1	..	4	6
Llandough Street	..	..	..	..	..	..	1	..	..	1	2
Llantrisant Street	..	..	..	..	..	..	..	..	2	1	3
Llantwit Street	..	..	..	..	..	..	..	..	1	3	4
Malefant Street	..	..	..	..	..	..	1	2	..	7	10
Manor Street	..	..	..	..	..	..	..	..	1	5	6
May Street	..	1	..	..	..	..	..	..	1	4	6
Merthyr Street	..	..	..	..	..	..	..	..	..	1	1
Minister Street	..	..	..	..	..	..	..	..	1	2	3
Minny Street	..	..	..	..	..	..	..	..	4	4	8
Miskin Street	..	..	..	..	..	..	..	..	..	2	2
Monthermer Road	..	..	..	..	..	..	..	2	2	3	7
Mundy Place	..	..	..	..	..	..	..	1	..	..	1
Norman Street	..	..	..	..	..	..	..	..	..	2	2
Rhymney Railway	..	..	..	..	..	..	..	..	..	2	2
Rhymney Terrace	..	..	..	..	..	..	..	..	1	..	1
Richard Street	..	..	..	..	..	..	..	2	1	1	4
Robert Street	..	..	..	..	..	..	..	..	1	3	4
Ruthin Gardens	..	..	..	..	..	..	..	..	..	3	3
Salisbury Road	..	..	..	..	..	..	..	..	..	3	3
Senghenydd Road	..	..	..	..	..	..	..	..	..	1	1
Spencer Street	..	..	..	..	..	..	..	..	..	2	2
Talygarn Street	..	1	..	..	..	..	..	..	..	1	2
Tewkesbury Place	..	..	..	..	..	..	..	..	..	1	1
Tewkesbury Street	..	..	..	..	..	..	..	..	2	6	8
Thesiger Street	..	1	..	..	..	..	..	..	..	5	6
Treorky Street	..	..	..	..	..	..	..	..	..	1	1
Whitchurch Road	..	..	..	..	..	..	..	..	1	3	4
Woodville Road	..	1	..	..	..	..	..	..	1	3	5
Wyeverne Road	..	..	..	..	..	..	..	2	1	3	6
Totals	..	6	..	1	6	..	3	19	35	148	182

ADAMSDOWN WARD.

NAME OF STREET.	Small pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Typhoid Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Adam Street	..	.	..	..	..	..	1	3	1	8	13
Adamsdown Square ..	..	1	..	..	..	..	..	..	..	2	3
Augusta Street	..	1	..	..	..	..	..	..	..	2	3
Bristol Channel	..	.	.	.	..	..	..	..	..	2	2
Buzzard Street	..	..	..	..	..	..	.	..	1	..	1
Clifton Street	..	1	..	..	..	..	..	..	1	1	3
Comet Street ..	..	..	..	..	1	..		..	2	3	6
Constellation Street	..	..	..	1	..	..	..	..	..	2	3
Copper Street	..	..	.	..	..	..	..	..	..	1	1
Cumnock Place	..	..	..	..	..	..	..	..	..	2	2
Cumnock Terrace	..	..	..	..	..	..	..	..	..	1	1
Cumrae Street	..	..		..	..	..	..	..	1	3	4
Cycle Street	..	..	..	..	..	..	..	..	1	1	2
Davis Street	..	..	..	..	..	..	..	..	..	3	3
Dowlais Works	..	..	..	..	..	..	..	..	..	2	2
Duffryn Street	..	1	..	..	..	..	..	..	1	2	4
East Dock	..	..	..	..	..	..	..	..	..	13	13
Eclipse Street	..	..	..	..	1	..	.	..	2	3	6
Ellen Street	..	..	..	..	..	..	..	..	2	3	5
Fitzalan Place	..	..		..	..	..	..	..	..	5	5
Galston Place	..	..	..	..	..	..	..	..	..	1	1
Galston Street	..	.	..	..	..	..	..	..	..	1	1
Garth Street	..	1	..	.	1	..	..	..	..	4	6
Godfrey Street	..	..	..	..	..	..	..	..	..	1	1
Gold Street	..	..	..	..	..	..	..	..	..	2	2
H. M. Prison	..	..	.	..	..	..	..	..	1	1	2
Inchmarnock Street ..	..	1	..	..	..	..	..	..	..	1	2
Infirmary	..	..	..	1	..	..	..	..	6	78	85
Infirmary. On way to ..	..	..	..	..	..	..	..	..	..	2	2
Iron Street	..	1	..	1	..	..	..	..	..	1	3
Ivor Street	..	..	..	..	..	..	..	..	1	1	2
Kerryeroy Street	..	1	..	..	..	..	..	..	1	..	2
Kilcattan Street	..	..	..	..	..	..	..	..	1	..	1
Kingarth Street	..	1	..	..	..	..	..	..	..	..	1
Lady Margaret Terrace ..	..	1	..	..	..	..	..	..	..	..	1
Lead Street	..	..	..	..	..	..	..	1	..	2	3
Longcross Street	..	..	..	..	..	1	..	..	..	1	2
Metal Street	..	..	..	.	..	..	..	..	2	6	8
Meteor Street	..	..	..	..	..	..	..	..	..	3	3
Moira Place	..	..	..	..	1	..	..	..	..	1	2
Moira Street	..	..	..	..	..	..	..	..	..	2	2
Moira Terrace	..	..	..	..	..	..	..	..	2	..	2
Moon Street	..	..	..	..	..	..	..	..	..	1	1
Morgan Street	..	..	..	..	..	..	..	..	1	1	2
New Dock	..	..	..	..	..	..	..	..	..	2	2
Newport Road	..	..	..	..	..	..	..	..	1	5	6
North Luton Place ..	..	..	..	..	..	..	..	..	1	2	3
North William Street ..	..	..	..	..	..	..	..	2	2	4	8
Orbit Street	..	..	..	..	.	..	..	1	..	..	1
Pellett Street	..	..	..	..	..	..	1	..	..		1
Pendoylan Street	..	1	..	..	..	..	1	1	3	2	8
Planet Street	..	..	..	..	..	..	..	..	..	2	2
Platinum Street	..	..	..	..	..	..	..	..	1	2	3
Prince Leopold Street ..	..	..	..	..	..	..	..	..	..	2	2
Roath Basin & Dock ..	..	..	..	..	..	..	..	..	.	13	13
Roland Street	..	..	..	..	..	..	1	1	1	3	6
Sandon Place	..	..	..	..	..	..	1	..	2	..	3
Sandon Street	..	..	..	..	..	..	..	..	..	2	2
Sanquahar Street	..	..	..	..	..	..	..	..	1	..	1
Sea. At	..	..	..	..	..	..	..	..	..	1	1
South Luton Place	..	..	..	..	..	..	..	..	1	2	3
System Street	..	..	..	..	..	..	..	..	2	3	5
Taff Street	..	..	..	..	..	..	..	1	..	1	2
Timber Yard	..	..	..	..	..	..	..	..	..	1	1
Tyndall Street	..	..	..	..	..	..	1	2	..	2	5
West Dock	..	..	..	..	..	..	..	..	..	4	4
Windsor Road	..	..	..	..	..	..	..	..	..	3	3
Zinc Street	..	..	..	..	..	.		..	2	1	3
Totals ..	..	11	..	3	4	1	6	12	44	226	307

RIVERSIDE WARD.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever	Diphtheria.	Whooping Cough.	Typhoid Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Ann Street	..	..	..	..	1	..	..	..	..	..	1
Beauchamp Street	..	..	..	..	1	..	..	..	..	4	5
Brook Street	..	..	..	..	..	..	..	..	3	4	7
Brunel Street . ..	..	..	..	..	..	..	..	..	..	2	2
Cathedral Road .. .	..	..	..	..	..	..	..	1	3	6	10
Clare Street	..	..	..	..	..	..	..	..	1	1	2
Cowbridge Road	..	..	..	..	..	1	..	..	2	5	8
Craddock Street	..	1	..	..	..	..	..	4	2	3	10
Deburgh Street	..	..	..	..	..	..	..	..	..	1	1
Despencer Gardens ..	..	..	..	..	..	..	..	..	..	1	1
Despencer Street	..	..	..	..	..	..	..	..	..	1	1
East Street	..	..	..	..	..	..	1	..	..	1	2
Eldon Street	..	..	..	1	..	..	..	1	..	1	3
Gloucester Street	..	..	..	..	..	..	..	..	1	2	3
Green Street	..	..	..	..	..	..	..	..	..	2	2
Halket Street	..	..	..	..	..	..	..	2	1	5	8
Hamilton Street	..	..	..	..	..	..	..	..	..	2	2
Jestyn Street	..	..	..	..	..	..	..	..	..	1	1
King's Road	..	..	..	..	1	..	..	2	4	3	10
Lewis Street	..	..	..	..	..	..	..	..	..	1	1
Lower Cathedral Road ..	..	..	..	..	..	..	..	..	1		1
Machen Place	..	..	..	..	..	..	..	..	2	3	5
Mark Street	..	..	..	..	..	..	..	..	2	2	4
Mortimer Road	..	..	..	..	..	..	..	1	..	1	2
Neville Street	..	..	..	..	..	..	..	..	1	4	5
North Morgan Street ..	..	..	..	..	..	..	..	1	..	..	1
Picton Place	..	..	..	..	..	..	..	..	..	1	1
Pitman Street	..	..	..	..	..	..	..	..	1	..	1
Plasturton Avenue	..	..	..	..	..	..	..	..	..	3	3
Plasturton Place	..	..	..	..	..	..	..	..	..	2	2
Pontcanna Street	..	..	..	..	..	..	..	..	..	1	1
Rennie Street	..	..	..	1	..	..	..	..	..	1	2
Ryder Street	..	1	..	..	..	..	..	..	..	2	3
Severn Road	..	1	..	..	..	..	1	..	5	4	11
Smeaton Street	..	..	..	..	..	..	..	..	..	2	2
South Morgan Street ..	..	..	..	..	..	..	..	..	1	..	1
Stephenson Street	..	..	..	..	..	..	1	..	1	..	2
Talbot Street	..	..	..	..	..	..	1	..	1	3	5
Telford Street	..	..	..	..	..	..	..	..	..	2	2
Teilo Street	..	..	..	..	..	..	..	..	..	1	1
Trevethick Street	..	..	..	..	..	..	..	..	..	1	1
Tudor Road	..	..	..	1	..	..	..	5	1	1	8
Union Workhouse	..	..	..	..	..	..	3	42	30	149	224
Wellington Street	..	..	..	..	..	..	..	..	..	2	2
Wells Street .. .	..	..	..	..	..	..	1	..	..	2	3
Wyndham Crescent ..	..	..	..	..	..	..	..	..	4	4	8
Wyndham Place .. .	..	2	..	..	..	..	1	..	..	1	4
Wyndham Road	..	..	..	..	..	..	..	1	2	6	9
Totals	..	5	..	3	3	1	9	60	69	244	394

CANTON WARD.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Typhoid Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Albert Street	..	1	..	..	..	..	..	1	2	7	11
Aldsworth Road ..	..	..	..	..	..	..	..	..	..	2	2
Alexandra Road	..	..	..	..	..	..	..	..	..	3	3
Atlas Place	..	..	..	..	..	..	..	..	..	1	1
Atlas Road	..	..	..	..	..	..	..	1	..	2	3
Bassett Street	..	..	..	..	..	..	..	..	1	..	1
Beacon Street	..	..	..	..	..	..	..	..	..	1	1
Beda Road	..	..	..	..	..	..	..	1	..	1	2
Bloom Street	.	1	..	..	..	..	..	1	..	..	2
Brecon Street	..	..	..	..	..	..	..	2	1	1	4
Brunswick Street	..	1	..	..	..	..	..	..	..	2	3
Cardigan Street	..	..	..	..	1	..	..	..	..	1	2
Carmarthen Street	..	..	..	..	..	..	..	..	..	1	1
Chancery Lane	..	1	..	..	..	..	1	..	2	3	7
Clive Road	..	..	..	..	..	..	..	..	..	5	5
Conway Road	..	..	..	..	..	..	..	1	..	4	5
Conybeare Road	..	..	..	..	..	..	..	..	..	1	1
Cowbridge Road	..	1	..	..	1	..	..	2	3	11	18
Cumberland Street.. ..	..	..	..	..	..	..	..	..	1	1	2
Daisy Street	..	.	..	..	..	..	..	..	1	..	1
Delta Street	..	..	..	..	..	..	1	..	..	..	1
Denton Road	..	..	..	..	..	..	..	..	1	4	5
Egerton Street	..	..	..	..	..	..	..	..	1	2	3
Egham Street	..	..	..	..	1	..	..	..	..	..	1
Eldon Street	..	..	..	..	..	..	..	..	1	2	3
Ethel Street	..	..	..	..	..	..	..	1	3	7	11
Ely Rise	..	..	..	..	..	..	..	..	..	2	2
Ely River	..	..	..	..	..	..	..	..	..	1	1
Forest Road	..	..	..	..	..	..	..	2	..	1	3
Glamorgan Street	..	..	..	..	..	..	..	..	..	3	3
Glynne Street	..	..	..	..	1	..	..	..	..	3	4
Gray Street	..	..	..	..	..	..	..	3	2	5	10
Harvey Street	..	..	..	..	..	..	..	1	1	1	3
Ivy Street	..	..	..	..	..	..	..	..	..	2	2
Kingsland Road	..	..	..	..	..	..	1	..	1	1	3
Lansdowne Road	..	..	..	..	..	..	..	..	..	1	1
Leckwith Place	..	..	..	..	..	..	..	1	1	..	2
Leckwith Road	..	..	..	..	1	..	..	2	..	6	9
Lincoln Street	..	..	..	..	..	..	..	..	..	2	2
Lionel Road	..	..	..	..	1	..	..	..	..	3	4
Littleton Street	..	..	..	..	..	..	..	..	..	2	2
Llandaff Road	..	..	..	..	..	..	1	1	..	2	4
Llanfair Road	..	..	..	..	..	..	..	..	..	8	8
Loftus Street	..	1	..	..	..	..	..	..	1	1	3
Lyndhurst Street	..	1	..	..	..	..	..	1	1	2	5
Major Road	..	..	..	..	..	..	..	..	..	2	2
Meadow Street	..	..	..	..	..	..	..	..	..	1	1
Mortimer Road	..	..	..	..	..	..	..	..	..	1	1
Nesta Road	..	..	..	..	..	.	..	..	1	3	4
Nottingham Street.. ..	..	..	..	..	..	..	..	..	.	1	1
Pembroke Road	..	..	..	..	..	..	1	1	1	2	5
Penhill Road	..	..	..	..	..	..	..		..	1	1
Penlline Road	..	..	..	..	..	..	..	1	..	1	2
Penypeel Road	..	..	..	..	1	..	1	..	1	..	3
Pontcanna Place	..	..	..	..	..	..	..	..	1	2	3
Preswylfa Street	..	..	..	..	..	..	..	..	.	2	2
Railway Terrace	..	..	..	..	..	..	..	..	..	1	1
Rolls Street	..	..	..	..	..	..	..	2	..	3	5
Romilly Crescent	..	..	..	..	..	..	..	..	..	1	1
Romilly Road	..	1	..	..	..	..	..	..	1	3	5
Severn Road	..	..	..	..	..	..	..	1	2	2	5
Springfield Place	..	..	..	..	2	..	1	1	..	2	6
Theobald Road .. .	..	..	..	..	..	..	..	..	..	1	1
Tintern Street	..	.	..	..	..	..	..	..	1	1	2
Turner Road	..	.	..	..	..	..	1	..	..	..	1
Welby Road	..	..	..	..	..	..	..	..	1	1	2
Wellington Street	..	..	..	..	..	..	..	..	..	2	2
Wells Street	..	..	.	..	..	..	..	..	..	3	3
Westbury Terrace	..	1	..	..	..	.	..	1	..	2	4
York Street	..	..	..	..	..	..	..	..	1	..	1
Totals	..	9	..	..	9	..	8	28	34	146	234

GRANGETOWN WARD.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Typhoid Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Allerton Street	..	..	..	1	..	..	..	..	2	2	5
Amherst Street	..	1	..	..	..	..	..	1	..	4	6
Andrews Terrace	..	..	..	..	..	..	..	1	1	1	3
Bishop Street	..	..	..	..	..	..	..	..	1	1	2
Blaenclydach Street	..	..	..	..	..	..	..	..	..	2	2
Bromsgrove Street	..	..	..	..	..	..	..	1	..	..	1
Cambridge Street	..	..	..	..	..	..	..	..	1	1	2
Chester Place	..	..	..	..	..	..	..	..	..	2	2
Chester Street	..	..	..	..	..	..	..	..	..	1	1
Clare Road	..	..	..	..	1	..	..	1	1	5	8
Clive Street	..	..	..	..	..	..	..	3	3	6	12
Clydach Street	..	..	..	..	..	..	..	..	1	..	1
Coedcae Street	..	..	..	..	..	..	1	..	..	4	5
Compton Street	..	..	..	..	..	..	..	1	..	1	2
Cornwall Street	..	..	..	..	..	..	1	..	2	2	5
Corporation Road	..	..	..	..	..	..	..	3	1	5	9
Court Road	..	..	..	..	1	1	..	..	..	7	9
Cymmer Street	..	..	..	..	..	..	..	..	..	2	2
Davies's Place	..	..	..	..	..	..	..	..	1	..	1
Devon Street	..	..	..	..	..	..	..	..	..	2	2
Dorset Street	..	..	1	..	..	1	..	..	..	3	5
Durham Street	..	..	..	..	..	..	..	..	..	1	1
Earl Street	..	..	..	..	..	..	..	..	..	2	2
Ferndale Street	..	..	..	..	..	..	..	..	1	4	5
Ferry Road	..	..	..	..	..	..	..	..	..	4	4
Franklin Street	..	..	..	..	..	..	..	..	..	1	1
Grange Gardens	..	..	..	..	..	..	..	1	..	2	3
Havelock Place	..	..	..	..	..	..	..	..	..	1	1
Hereford Street	..	..	2	..	..	..	..	..	..	3	5
Hewell Street	..	..	3	..	..	..	..	1	4	3	11
Holmesdale Street	..	..	1	..	..	..	..	..	2	7	10
Kent Street	..	..	1	..	..	..	..	..	1	5	7
Knole Street	..	..	..	..	..	..	..	..	..	3	3
Llanbradach Street	..	..	..	..	..	..	..	..	..	3	3
Llanmaes Street	..	..	1	..	..	..	..	1	..	3	5
Lucknow Street	..	..	..	..	..	..	..	..	..	2	2
Ludlow Street	..	..	..	..	..	..	..	..	1	2	3
Madras Street	..	..	..	..	..	..	..	..	2	2	4
Maitland Place	..	..	..	..	..	..	..	1	..	..	1
Monmouth Street	..	..	..	..	..	..	..	..	2	..	2
Newport Street	..	..	..	..	..	..	1	..	..	..	1
North Clive Street	..	..	1	..	..	..	1	..	1	2	5
Oakley Street	..	..	2	..	..	..	..	..	..	6	8
Paget Street	..	..	1	..	..	1	..	1	3	3	9
Penarth Harbour	..	..	..	..	..	..	..	..	..	2	2
Penarth Road	..	..	1	..	..	..	1	2	1	10	15
Penhevad Street	..	..	..	..	..	..	..	..	1	2	3
Pentrebane Street	..	..	..	..	..	..	..	..	..	2	2
Redlaver Street	..	..	1	..	..	..	..	1	..	3	5
Rudry Street	..	..	..	..	..	..	..	..	1	..	1
Rutland Street	..	..	..	..	..	..	..	..	3	4	7
Saltmead Road	..	..	1	..	..	..	..	..	1	5	7
Sanatorium	..	..	1	4	9	..	4	..	..	1	19
Seven Oaks Street	..	..	..	..	..	..	..	..	..	2	2
Somerset Street	..	..	..	..	..	..	1	2	1	8	12
St. Fagan's Street	..	..	..	..	..	..	..	..	1	5	6
Stockland Street	..	..	1	..	..	..	..	1	2	3	7
Stoughton Street	..	..	1	..	..	..	2	..	2	1	6
Taff Embankment	..	..	..	..	1	..	..	..	2	2	5
Thomas Street	..	..	..	..	..	..	1	1	..	4	6
Tynant Street	..	..	..	..	..	..	..	..	1	..	1
Van Street	..	..	..	..	..	..	..	..	..	2	2
Warwick Street	..	..	..	..	..	..	..	..	..	3	3
Wedmore Road	..	..	..	..	..	..	2	..	3	4	9
York Place	..	..	..	..	..	..	..	1	..	..	1
Totals	..	20	4	12	4	4	11	24	50	173	302

ROATH WARD

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Typhoid Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Agate street	..	..	..	..	1	..	..	..	..	4	5
Albany Road	..	..	..	..	..	..	..	..	1	2	3
Arthur Street	..	1	..	..	..	..	..	1	1	1	4
Beresford Road	..	..	..	..	..	..	..	..	..	1	1
Bertram Street	..	1	..	..	..	..	..	..	1	3	5
Blanche Street	..	..	..	..	..	..	..	..	2	..	2
Bradley Street	..	..	..	..	..	..	..	..	..	7	7
Broadway	..	..	..	..	..	..	..	1	..	6	7
Cecil Street	..	..	..	..	..	..	..	1	5	4	10
Church Terrace	..	..	..	..	..	..	..	..	..	1	1
Claude Place	..	..	..	..	..	..	..	..	..	2	2
Claude Road	..	..	..	1	..	.	..	..	..	5	6
Clifton Street	..	..	..	..	..	..	..	..	1	1	2
Connaught Road	..	..	..	..	..	..	..	1	1	3	5
Cottrell Road	..	..	..	..	1	..	..	1	..	1	3
Cressy Road	..	..	..	..	..	..	..	1	..	..	1
Crofts Street	..	..	..	..	..	..	..	..	..	1	1
Diamond Street	..	1	..	..	..	..	..	2	2	6	11
Elm Street	..	..	..	..	1	..	..	..	3	4	8
Emerald Street	..	2	..	..	..	..	..	2	3	4	11
Harold Street	..	..	..	..	..	..	.	..	2	3	5
Helen Street	..	2		..	..	..	..	..	3	5	10
Newport Road	..	..	..	..	..	..	..	..	1	6	7
Nora Street	..	..	..	..	..	..	..	..	..	5	5
Oakfield Street	..	..	..	..	..	..	..	..	..	2	2
Partridge Road	..	..	..	..	..	..	..	..	..	4	4
Pearl Street	..	..	..	..	..	..	..	4	1	10	15
Pengam, On Railway ..	..	..	..	..	..	..	..	..	..	1	1
Richards Terrace	..	..	..	..	..	..	.	..	..	3	3
Ruby Street	..	..	..	..	..	..	..	..	2	7	9
Sapphire Street	..	..	..	..	..	..	..	1	..	2	3
Shakespeare Street.. ..	..	..	..	..	..	..	..	1	.	.	1
Spring Gardens Place ..	..	2	..	..	..	..	.	..	1	1	4
Stacey Road	..	..	..	..	..	..	..	.	1	6	7
Theodora Street	..	..	..	..	..	..	..	1	..	2	3
Topaz Street	..	1	..	..	..	..	1	1	..	4	7
Waterloo Road	..	..	..	..	..	..	..	..	..	1	1
Wellfield Road	..	..	..	..	..	..	..	..	..	1	1
Totals	..	10	..	1	3	..	1	18	31	119	183

PARK WARD.

NAME OF STREET.	Small pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Typhoid Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Albany Road	..	..	..	..	..	..	..	..	2	1	3
Alfred Street	..	..	..	..	..	..	..	2	..	3	5
Arabella Place	..	..	..	1	..	..	..	..	..	..	1
Arabella Street	..	..	..	..	..	..	..	3	1	3	7
Arran Street	..	..	.	..	..	..	..	1	1	10	12
Angus Street	..	..	..	..	..	..	..	..	1	3	4
Bangor Street	..	..	..	..	..	..	..	..	2	..	2
Bedford Place	..	1	..	..	..	..	.	..	..	1	2
Bedford Street	..	..	..	..	..	..	1	1	4	6	12
Boverton Street	..	..	..	..	..	..	..	..	..	1	1
Braeval Street	..	..	..	..	..	..	..	.	1	..	1
Byron Street	..	..	..	..	..	..	..	..	4	3	7
Cafarthfa Street	..	..	..	..	..	..	..	..	2	4	6
Castle Road	..	1	..	..	..	..	..	3	4	4	12
Clive Place	..	..	..	..	..	..	..	..	..	1	1
Convent, The	..	..	..	..	..	..	..	1	..	..	1
Crwys Place	..	..	..	..	..	1	..	..	..	1	2
Diana Street	..	..	..	..	..	..	1	..	..	5	6
Donald Street	..	..	..	..	..	..	1	1	1	3	6
Elm Street	..	..	..	..	..	..	..	..	2	..	2
Glenroy Street	..	..	..	..	..	..	..	..	1	2	3
Gordon Road	..	..	..	..	..	..	..	..	..	3	3
Hendy Street	..	..	..	..	..	..	..	..	..	2	2
Inverness Place	..	..	..	..	..	..	..	2	..	9	11
Keppoch Street	..	..	..	..	..	..	1	..	2	6	9
Kincraig Street	..	..	..	..	..	..	..	1	1	..	2
Lily Street	..	..	..	..	..	..	..	..	1	1	2
Lochabar Street	..	1	..	..	..	..	..	1	1	2	5
Mackintosh Place	..	..	..	..	..	..	..	..	1	7	8
Milton Street	..	..	..	.	..	..	..	1	3	3	7
Montgomery Street ..	..	..	..	..	..	..	..	..	..	1	1
Moy Road	..	..	..	..	1	..	..	1	2	8	12
Newport Road	..	..	..	..	..	..	..	..	2	4	6
Ninian Road	..	..	..	..	..	..	..	1	..	2	3
Northcote Street	..	..	..	..	..	..	..	..	..	1	1
Oxford Street	..	..	..	..	..	..	..	..	1	2	3
Parade, The	..	..	..	..	.	..	..	..	..	3	3
Penywain Road	..	..	..	..	..	..	..	..	..	2	2
Plasnewydd Place	..	..	..	..	..	..	..	..	..	1	1
Plasnewydd Road	..	..	..	..	..	..	..	..	..	1	1
Rhymney Railway Station ..	..	..	..	..	..	..	..	..	..	1	1
Richmond Crescent ..	.	..	..	.	..	..	..	..	..	1	1
Richmond Road	..	..	..	..	..	..	..	..	..	6	6
Rose street	..	..	..	..	..	..	..	..	..	4	4
Russell Street	..	..	..	..	1	..	..	..	1	2	4
Shakespeare Street ..	..	..	..	..	..	..	1	2	..	4	7
Southey Street	..	..	..	.	..	..	..	..	..	2	2
St. Peter Street	..	..	..	..	..	..	1	..	..	..	1
Strathnairn Street	..	.	..	..	..	..	..	..	..	2	2
Talworth Street	..	..	..	..	..	..	..	..	1	3	4
Treharris Street	..	..	..	..	..	..	..	2	3	6	11
Tulloch Street	..	..	..	..	..	..	..	..	..	1	1
Tynycoed Place	..	..	..	..	..	.	..	..	..	1	1
Upper Kincraig Street ..	..	..	..	..	..	..	..	..	2	1	3
Violet Row	..	..	..	..	..	..	..	..	1	..	1
Walk, The	..	..	.	..	..	..	..	..	..	1	1
Wordsworth Avenue ..	..	..	..	..	..	..	..	..	..	2	2
Totals	..	3	..	1	2	1	6	23	48	146	230

SPLOTT WARD.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Typhoid Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Aberdovey Street	..	..	..	..	..	..	..	..	..	3	3
Aberystwith Street ..	..	..	..	..	..	..	..	..	..	3	3
Adeline Street	..	1	..	..	1	..	..	..	2	9	13
Bridgend Street	..	1	..	..	1	..	..	..	1	4	7
Burnaby Street	..	..	..	..	..	..	..	..	..	1	1
Caerphilly Street	..	..	..	..	1	..	..	..	2	2	5
Cameron Street .. .	..	..	..	..	..	..	..	..	1	..	1
Carlisle Street	..	..	..	..	..	..	1	2	2	6	11
Cornelia Street	..	..	..	..	..	..	..	..	2	1	3
Coveny Street	..	..	..	..	..	.	..	1	..	3	4
Enid Street	..	..	..	..	..	..	..	..	1	1	2
Eyre Street . ..	..	..	..	..	..	..	..	..	..	3	3
Florence Street .. .	..	..	..	..	..	..	..	..	..	1	1
Habershon Street	..	..	..	..	..	..	..	2	5	11	18
Janet Street	..	1	..	..	..	..	..	1	1	6	9
Lascelles Road	..	..	..	..	..	..	..	..	..	1	1
Layard Street	..	1	..	..	..	..	..	..	3	1	5
Llanelly Street	..	1	..	1	..	..	1	..	1	4	8
Marion Street	..	1	..	..	..	..	..	1	2	3	7
Menelaus Street	..	..	..	..	1	..	..	..	..	3	4
Metropolitan Road.. ..	..	..	..	..	..	..	..	..	..	1	1
Milford Street	..	..	..	..	..	..	..	..	1	2	3
Moorland Road	..	..	..	.	1	..	..	2	2	8	13
Ordell Street	..	1	..	..	1	..	..	1	3	6	12
Pontypridd Street .. .	..	..	..	..	..	..	1	..	1	3	5
Portmanmoor Road .	..	..	..	..	..	..	..	1	4	11	16
Railway Street	..	2	..	..	..	..	..	2	3	7	14
Seymour Street	..	..	..	..	..	.	..	1	1	2	4
Singleton Road	..	..	..	..	..	..	..	1	1	1	3
Splott Road .. .	..	..	..	..	..	..	..	..	2	4	6
Swansea Street . ..	..	..	..	..	..	..	.	..	..	5	5
Swinton Street	..	..	..	..	.	..	..	1	..	1	2
Tenby Street .. .	..	..	..	..	..	..	..	..	1	1	2
Walker Road	..	..	..	..	..	..	..	..	2	1	3
Wilson Street .. .	..	..	..	..	..	..	..	..	..	1	1
Wimborne Street	..	..	..	..	..	..	1	..	3	5	9
Totals	..	9	..	1	6	..	4	16	47	125	208

INFECTIOUS DISEASES.—The 2,443 deaths from all causes included 216 from the principal infectious diseases. The subjoined table shows the number of deaths from these diseases during each quarter of the year 1905 :—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
Measles	45	34	1	—
Scarlet Fever	2	2	—	—
Whooping Cough	10	13	7	8
Diphtheria	7	6	3	7
Fever (Enteric)	2	4	2	—
Diarrhœa	5	8	40	10
Total	71	67	53	25

The 216 deaths from these diseases were equivalent to an annual death-rate of 1·14 per 1,000 persons living, as compared with 1·81, the rate in 1904, and with 2·21, the average rate in the ten years, 1895-1904. The death-rate from the principal infectious diseases in England and Wales in 1905 was as follows :—

	Death rate per 1,000
England and Wales	1·52
76 large towns	1·88
141 smaller towns	1·50
Rural England and Wales	1·09

In Cardiff, the death-rate from this group of diseases in the several Registration Sub-districts was as follows :—

East Cardiff	0·82 per 1,000
West ,, ...	1·32 ,,
Central ,, ...	1·15 ,,

In 33 of the largest towns in England and Wales, the death-rate from the seven chief zymotic diseases ranged from 0·54 per 1,000 in Brighton, 0·98 in Croydon and in Halifax, 1·09 in Huddersfield, and 1·14 in Cardiff, to 2·55 per 1,000 in Salford, 2·59 in Liverpool, 2·98 in West Ham, 3·14 in Preston, and 3·19 in Sheffield.

TABLE XIX.

The following table shows the number of cases of infectious diseases notified in the Cardiff Urban Sanitary District since the adoption of the Infectious Diseases Notification Act, 1889 :—

	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
Small-pox ..	..	9	5	4	10	1	45	7	..	..	4	8	2	65	11	24
Diphtheria ..	63	67	155	462	326	229	296	512	940	628	706	724	686	431	389	316
Croup ..	9	3	9	17	17	19	10	4	20	12	8	10	15	7	17	11
Scarlet Fever	335	685	1,851	816	577	484	874	758	332	184	383	1362	1,433	963	658	362
Enteric Fever	152	130	118	105	62	79	74	117	80	94	95	73	76	105	42	39
Typhus Fever	..	..	..	41	1	..	1	..	..	..	4	..	..	6	..	..
Erysipelas ..	45	52	95	152	135	132	134	163	133	176	106	152	169	145	112	133
Puerperal Fever	4	10	12	24	19	17	21	12	18	13	15	16	13	20	12	14
Continued Fever		..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Total ..	608	956	2,245	1,621	1,147	961	1,455	1,573	1,523	1,107	1,321	2,345	2,394	1,742	1,241	902

From the foregoing tables it will be seen that the mortality from infectious diseases in Cardiff during the year was unusually low, and that the number of cases notified was the lowest recorded since the year 1891.

The death-rate from the infectious diseases in the aggregate, was raised in consequence of the prevalence and fatality of measles and whooping cough during the first and second quarters of the year. These diseases between them contributed 118, or 54 per cent. of the total deaths from the seven chief infectious diseases. It is to be regretted that, throughout the country, the mortality from measles and whooping cough shows no sign of a decline. The administrative measures which have proved successful in the control of scarlet fever, small-pox, diphtheria, enteric fever, phthisis, &c., have as yet produced little or no effect upon these two diseases. Many difficulties stand in the way of controlling the spread of measles and whooping cough. They are not notified to the Medical Officer of Health, and the effectual isolation of even those cases which are known to exist is difficult to secure. The Education Authority have now under consideration the best means of preventing the spread of these diseases, and have asked their Medical Officer to make a report upon the subject.

A large number of certificates for exclusion from school attendance were granted, with respect to children suffering from infectious diseases—chiefly scarlet fever and diphtheria—and those who had been exposed to infection. The number of notices for exclusion from Public Elementary Schools amounted to 844, distributed as follows :—

Name of School.	Number of Notices sent to Schools.
Severn Road Council School	60
Albany Road Council School	55
Adamsdown Council School	54
Stacey Road Council School	53
Grangetown Council School	47
Radnor Road Council School	47
Splott Road Council School	47
Gladstone Council School	43
Marlborough Road Council School	41
Crwys Road Council School	39
Wood Street Council School	36
Court Road Council School	34
Lansdowne Road Council School	32
St. German's National School	25
Roath Park Council School	21
St. Peter's Roman Catholic School	20
St. Andrew's National School	18
St. James' National School	17
Moorland Road Council School	16
Higher Grade School	15
Virgil Street Council School	15
Eleanor Street Council School	14
St. John's National School (Canton)	10
St. David's Roman Catholic School	10
Intermediate Schools	8
South Church Street Council School	7
St. Patrick's Roman Catholic School	7
Crofts Street National School	7
St. Monica's National School	7
St. Alban's Roman Catholic School	7
St. Mary's Roman Catholic School	6
St. Paul's Roman Catholic School	6
Mount Stuart Square National School	5
St. Mary's National School (North Church Street)	4
Allen's Bank Council School	3
Ely Council School	3
St. John's National School (Queen Street)	2
St. Dyfrig's National School	2
School for Deaf and Dumb	1
Total	844

MEASLES.—Eighty deaths from this disease were registered during the year 1905, as compared with 64 in 1904. The deaths were equivalent to an annual death-rate of 0·44 per 1,000 persons living. The death-rate in 1904 was 0·36 per 1,000, and the average rate in the ten years 1895-1904 0·41 per 1,000.

The deaths from measles in the several Registration Sub-districts, and in the Public Institutions, during each quarter of the year, were as follows :—

Registration Sub-districts.	1st Quarter	2nd Quarter.	3rd Quarter.	4th Quarter.
Central Cardiff	19	4	1	—
West ,, ...	11	22	—	—
East ,, ...	14	8	—	—
Isolation Hospital..	1	—	—	—

The mortality from measles throughout the country was as follows :—

	Death-rate per 1,000.
England and Wales	0·32
76 great towns	0·39
142 smaller towns	0·31
Cardiff	0·44

From the foregoing it will be seen that the excessive fatality from measles in Cardiff was confined to the first and second quarters of the year, and that generally the incidence of the disease fell equally upon the several districts in the town. Of the 80 deaths at all ages from this disease, 76 were amongst children under five years of age.

In 33 of the largest towns the death-rate from measles ranged from ·01 per 1,000 in Halifax, ·02 in Brighton, ·04 in Bradford, and ·05 in Huddersfield, to ·91 in Sheffield, ·92 in Nottingham, and 1·08 in Portsmouth.

SCARLET FEVER.—Four deaths were registered from scarlet fever during the year, corresponding to an annual death-rate of 0·02 per 1,000 persons living, as compared with 0·14, the death-rate from this disease in 1904, and with 0·12, the average death-rate in the ten years 1895-1904. The mortality from scarlet fever throughout the country in the year 1905 was as follows :—

	Death-rate per 1,000.
England and Wales	0·11
76 great towns	0·13
141 smaller towns	0·11
Cardiff	0·02

The number of cases of scarlet fever notified during the year 1905 amounted to 362, distributed in the Registration Sub-districts, during each quarter of the year, as follows :—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
East Cardiff	24	22	33	46
Central ,, ...	25	37	24	31
West ,, ...	47	38	13	22
Total	96	97	70	99

The fatality, or proportion of deaths of scarlet fever to cases notified, amounted to 4·1 per cent.

Of the cases notified, 274, or 75.6 per cent., were removed to the City Isolation Hospital. From the following table it will be seen that, with the exception of the year 1898, the number of cases notified in 1905 was the lowest recorded since 1891. At the same time, the proportion of those cases received into the hospital was the highest :—

TABLE XX.

Year.	Population.	No. of Cases Notified.	Attack rate per 1,000.	No. of Deaths.	Death rate per 1,000.	Percentage Removed to Hospital.	Mortality per cent. of Cases Notified.
1891	130,283	685	5·25	35	0·27	—	5·0
1892	132,895	1,851	13·17	87	0·65	13	4·7
1893	136,168	816	6·00	39	0·28	22	4·7
1894	139,519	577	4·13	8	0·05	31	1·3
1895	142,958	484	3·38	8	0·05	43	1·6
1896	146,479	874	5·96	28	0·19	48	3·2
1897	150,087	758	5·05	17	0·11	50	2·2
1898	153,783	332	2·15	8	0·05	56	2·4
1899	157,414	184	1·16	3	0·01	66	1·6
1900	161,452	383	2·37	11	0·06	65	2·8
1901	165,308	1,362	8·23	29	0·17	47	2·1
1902	168,909	1,433	8·42	36	0·21	48	2·1
1903	172,598	963	5·57	32	0·18	63	3·7
1904	176,313	658	3·73	25	0·14	72	3·3
1905	180,054	362	2·00	4	0·02	75	1·1

DIPHTHERIA AND MEMBRANOUS CROUP.—Twenty-three deaths were registered from these diseases during the year 1905. This number corresponds to an annual death-rate of 0.12 per 1,000 persons living, as compared with 0·17, the death-rate in 1904, and with 0·45, the average rate in the ten years 1895-1904.

The mortality from diphtheria and membranous croup was therefore considerably below the average, and was, in fact, the lowest recorded since the year 1891. The mortality from diphtheria throughout the country in the year 1905 was as follows :—

	Death-rate per 1,000.
England and Wales	0·16
76 great towns	0·16
141 smaller towns	0·15
Cardiff	0·12

The number of cases of these diseases notified in Cardiff during the year amounted to 327, as compared with 389 in 1904, with 438 in 1903, and with 686 in 1902. Since the year 1901, when the notifications amounted to 724, there has been a gradual decrease in the annual number of cases notified.

The number of notifications and deaths in each quarter of the year in the several Registration Sub-districts was as follows :—

	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.	
	Notification.	Deaths.	Notification.	Deaths.	Notification.	Deaths.	Notification.	Deaths.
East Cardiff	27	1	17	—	14	—	19	2
Central ,,	16	2	28	2	17	—	24	1
West ,,	61	4	36	4	38	3	30	4
Institution	—	2	—	2	—	2	—	4

The fatality, or proportion of deaths to cases notified, during the year was 7 per cent. This was the lowest rate of fatality recorded since 1891, showing that the disease was of a comparatively mild type. Of the cases notified, 182, or 55 per cent., were removed to the City Isolation Hospital.

The following table shows the number of notifications of cases of diphtheria and the mortality in each year since 1891 :—

TABLE XXI.

Year.	Population.	No. of Cases Notified.	No. of Deaths.	Death-rate per 1,000.	Mortality per Cent. of Cases Notified.
1891	130,283	67	16	0·21	23·8
1892	132,895	155	36	0·27	23·2
1893	136,168	462	93	0·67	20·1
1894	139,519	326	59	0·42	18·0
1895	142,548	229	46	0·32	20·0
1896	146,479	296	55	0·38	18·6
1897	150,087	512	90	0·59	17·5
1898	153,783	940	129	0·84	12·6
1899	157,414	628	61	0·38	9·7
1900	161,552	706	81	0·60	11·4
1901	165,308	724	78	0·47	10·7
1902	168,909	686	88	0·52	12·8
1903	172,598	438	36	0·20	8·2
1904	176,313	389	31	0·17	7·9
1905	180,054	327	23	0·12	7·0

The fatality from diphtheria falls chiefly upon young children. The number of notifications and the rate of fatality at various age periods, in Cardiff, during the year 1905, is given below :—

Age Period.	Cases Notified.	Deaths.	Proportion of Deaths to Cases Notified.
Under 1 year	3	2	66·6 per cent.
1—5 years	95	11	11·5 ,,
5—15 ,,	152	10	6·5 ,,
15—25 ,,	34	—	—
25—65 ,,	32	—	—

ENTERIC FEVER.—Eight deaths were registered from this disease, corresponding to an annual death-rate of 0·04 per 1,000 persons living, as compared with 0·10, the average rate in the ten years 1895-1904.

The mortality from fever (including typhus and enteric fever) throughout the country was as follows :—

	Death-rate per 1000.
England and Wales	0·09
76 great towns	0·08
141 smaller towns	0·13
Cardiff	0·04

In the large towns the death-rate from enteric fever during the year 1905 ranged from 0·01 in Brighton, in Bristol, and in Gateshead. 0·02 in Leicester, 0·03 in Newcastle-upon-Tyne, and in Croydon, to 0·10 in Burnley, 0·11 in Blackburn, 0·13 in Salford, 0·14 in Bolton, 0·15 in Sunderland, and 0·16 in Huddersfield.

The number of cases of enteric fever notified was 39; of these 23, or 59 per cent., were removed to the Isolation Hospital. Eight of the cases notified had their origin outside the district.

An examination was made of the sanitary condition and surroundings of the dwellings occupied by the persons attacked with enteric fever, and in ten instances defective drainage or sanitary defects of some kind were discovered and remedied.

It will be seen by the following table that the number of cases of enteric fever notified during the year 1905 was the smallest recorded since 1891.

The number of cases in each year since the Infectious Disease Notification Act came into force is shown in the following table, which shows also the attack rate, or proportion of cases notified per 1,000 persons living, the death-rate per 1,000, and the percentage proportion of deaths to cases notified :—

TABLE XXII.

Year.	Population.	No. of Cases Notified.	Attack rate per 1,000.	No. of Deaths.	Death rate per 1,000.	Percentage removed to Hospital.	Mortality per cent. of cases notified.
1891	130,283	130	0·99	26	0·19	—	20·0
1892	132,895	118	0·88	24	0·18	3	20·3
1893	136,168	103	0·75	18	0·13	12	17·4
1894	139,519	62	0·44	7	0·05	1	11·2
1895	142,958	79	0·55	14	0·09	13	17·7
1896	146,479	74	0·50	13	0·08	28	17·0
1897	150,087	117	0·77	20	0·13	34	17·0
1898	153,783	80	0·52	17	0·11	23	21·2
1899	157,414	94	0·59	19	0.12	52	20·2
1900	161,452	95	0·58	25	0.15	47	26·3
1901	165,308	73	0·44	11	0.06	57	15·0
1902	168,909	69	0·40	9	0.05	68	13·0
1903	172,598	100	0·57	14	0.08	76	14·0
1904	176,313	40	0·22	9	0.05	57	22·5
1905	180,054	39	0·21	8	0.04	58	20·5

SMALL-POX.—There were no deaths from this disease during the year. Twenty-four cases came under my observation, as follows :—

The first case was seen by me on the 10th March, at the request of the medical man in attendance, and was a young girl, M.M., aged 18 years, living at 70, Whitchurch Road. When seen she had been ill about seven or eight days, and a large number of persons had been in contact with her up to the time of her removal to the Small-pox Hospital on the above-mentioned date ; amongst these a relation, A.R., a girl aged 18 years, sleeping in the same room, H.M., aged 49, the father, living in the same house, and a neighbour, J.S., at 66, Whitchurch Road, contracted the disease. The first case, M.M., had been vaccinated in infancy only. A.R. was re-vaccinated on the 11th March, and her attack was of the mildest description, as was also that of the father, H.M., who had been revaccinated when in the Army. J.S. had been vaccinated in infancy, but refused re-vaccination. She had a well marked eruption with somewhat severe symptoms.

On the 31st March my attention was called by the district Medical Officer to a man suffering from small-pox in a common lodging house in 9, Homfray Street ; J.W., aged 54, a labourer. This man contracted small-pox in Yorkshire, where he was at work a fortnight before being taken ill.

On the 17th April a case was reported, that of a lodger in the Workmen's Home, 276, Bute Street, working at the new dock. The patient, who was removed to the Hospital on the same day, probably contracted the disease from a workman in a common lodging house in Homfray Street, who was removed on the 31st March.

On the 24th May a case of small-pox was notified to me. The patient, E.N., was a workman at the new dock, and resided at 28, Talygarn Street, who contracted the disease whilst working on the Castle Cary Railway, near Bristol. He came to Cardiff on the 13th May, was taken ill about the 18th, and was removed to the Hospital on the 24th May. This patient infected a fellow workman, W.H., the occupier of the same house, who was removed to the Hospital on the 7th June.

On the 10th June, the wife of the occupier of the Machen Forge Inn, Blackweir, was removed to the Small-pox Hospital. In this case the source of the infection was not discovered. The inn is a usual place of call for workmen and tramps coming into the town from outside districts, and the disease was therefore probably contracted from some casual visitor.

On the 24th June, J.C., residing at the Workmen's Home, Bute Street, was removed to Hospital suffering from small-pox, and on the 26th, three other men living in the same place were also found to be infected with the disease.

On the 28th of June three inmates of the Workmen's Home, Bute Street, were found to be infected with small-pox. These cases were discovered by means of the examination of the lodgers in consequence of the case which was notified in the same house on the 24th June. The source of infection in these cases was not discovered.

From the same infection, judging from the date of the onset of the disease, another case of small-pox originated in 35, Frederick Street. This was not discovered until convalescence, and resulted, therefore, in the infection of another inmate of this house—the mother of the previous case—who became ill about the 13th July.

On the 14th July my attention was called by the Resident Medical Officer of the Union Infirmary to a man who had been placed in the Isolation Ward, and who was found to be suffering from small-pox, contracted from the cases which occurred in the Workmen's Home on the 28th June.

On the 15th July a case of small-pox was notified at 14, Sandon Place ; a woman, B.C., who had been working in an infected house, *i.e.*, 35, Frederick Street.

On the 23rd July a case of small-pox was discovered at 17, Devon Place, J.S., aged 19 years, who had recently visited his brother at 27, Fryatt Street, Barry, who was suffering at the time from small-pox.

On the 25th July a case was notified at 49, Llanmaes Street, the origin of which was unknown.

On August 9th a case of small-pox was discovered, a woman, M.S., 23 years of age, living in 68, Holmesdale Street, who contracted the disease by visiting 49, Llanmaes Street. On the 11th August another case was found in the same house, and on the 29th a third case occurred in 68, Holmesdale street—the father of the person attacked on the 9th August.

All the above-mentioned cases of small-pox were removed to the Small-pox Hospital for isolation and treatment, and a large number of persons who had been exposed to the infection were re-vaccinated. No further cases were reported during the year.

VACCINATION RETURN FOR THE YEAR 1905.

I am indebted to the Vaccination Officer for the following return of vaccinations within the City during the year :—

Successfully Vaccinated.	Insusceptible.	Postponed.	Certificates of Conscientious Objection.	Died Unvaccinated.	Unaccounted for.
4,422	14	79	65	527	561

DIARRHŒA.—The deaths from diarrhœa, including those from epidemic enteritis, numbered 63, being equivalent to an annual death-rate of 0·27 per 1,000 persons living, as compared with 0·73 per 1,000 in 1904. The average death-rate from diarrhœa in Cardiff in the 10 years 1895-1904 was 0·78 per 1,000.

The mortality from diarrhœa throughout the country in the year 1905 was as follows :—

	Death-rate per 1,000.
England and Wales	0·59
76 great towns	0·83
141 smaller towns	0·57
England and Wales, less the 217 towns	0·32
Cardiff	0·27

In 33 of the largest towns the death-rate from diarrhœa ranged from 0·21 per 1,000 in Halifax, 0·27 in Cardiff, 0·32 in Brighton, and 0·34 in Huddersfield, and Bristol, to 1·28 per 1,000 in Burnley, 1·30 in Liverpool, 1·45 in Sheffield, and 1·49 in West Ham.

The distribution of fatal diarrhœa in Cardiff, according to the season of the year and the various age periods, was as follows :—

TABLE XXIII.

1905	Under 1 year	1 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 65 years.	65 and upwards.	Total.
First Quarter ..	3	1	1	—	—	—	5
Second ,, ..	6	—	—	—	—	2	8
Third ,, ..	37	—	2	—	1	—	40
Fourth ,, ..	6	2	—	—	1	1	10
Year	52	3	3	—	2	3	63

From the preceding table it will be seen that of the 63 deaths during the year 1905, 52, or 82·5 per cent., were amongst infants under one year of age. Taking these deaths in monthly periods under one year of age, it is found that the greatest fatality was between the age of 4 and 5 months.

The following Table shows the distribution in Municipal Wards of deaths from diarrhœa amongst infants under one year of age :—

TABLE XXIV.

DIARRHŒA DEATHS UNDER ONE YEAR IN THREE AGE PERIODS.

WARDS.	Under 3 Months.	3-6 Months.	6-12 Months.	TOTAL.
Central	3	3	2	8
South	—	2	—	2
Cathays	—	2	—	2
Park	—	1	1	2
Adamsdown ..	1	1	2	4
Riverside	—	4	—	4
Canton	1	—	3	4
Roath	—	—	—	—
Grangetown ..	3	2	3	8
Splott	—	3	—	3
TOTAL ..	8	18	11	37

The relation between the temperature of the air, rainfall, and the diarrhœa mortality during the third quarters of the years 1892–1905 is shown in the following Table :—

TABLE XXV.

Diarrhœal Mortality in the Third Quarters of the Years 1892–1905.

Year.	Death-rate per 1,000.	Mean Temperature.	Rainfall in inches.
1892	2·3	60°·4	12·4
1893	2·5	61°·0	8·9
1894	0·5	57°·0	10·9
1895	2·5	59°·5	9·9
1896	2·4	58°·9	11·3
1897	2·6	59°·3	14·3
1898	2·6	60°·3	5·8
1899	3·2	63°·3	5·3
1900	1·2	59°·7	6·0
1901	1·4	60°·2	11·1
1902	0·8	57°·5	9·5
1903	1·2	56°·9	13·1
1904	2·3	59°·3	11·1
1905	0·8	58°·5	6·7

The following Table gives the diarrhœal death-rate, at all ages, during each week in the third quarters of the years 1902-1905, and shows the influence of meteorological conditions upon this mortality.

TABLE XXVI.

	July, August, and September—Weeks.												
	1	2	3	4	5	6	7	8	9	10	11	12	13
1902.													
Mean Temperature ..	61·8	60·0	59·4	56·5	56·9	59·5	58·2	60·4	57·9	59·1	56·1	53·1	55·0
Rainfall (inches) ..	·57	·19	·77	·71	·38	·96	1·19	1·26	·59	·30	1·35	·35	1·16
Number of Deaths ..	1	4	—	—	1	—	1	2	1	8	3	8	7
Death-rate per 1,000* ..	0·3	1·2	—	—	0·3	—	0·3	0·6	0·3	2·4	0·9	2·4	2·1
1903.													
Mean Temperature ..	60·1	58·6	60·3	58·4	59·4	63·5	57·2	59·8	59·1	53·5	49·7	59·9	58·7
Rainfall (inches) ..	·05	1·73	1·47	1·20	·51	1·49	1·67	1·67	1·42	·97	—	·53	2·06
Number of Deaths ..	1	—	1	2	1	3	8	4	5	6	8	6	8
Death-rate per 1,000* ..	0·3	—	0·3	0·6	0·3	0·9	2·4	1·2	1·5	1·8	2·4	1·8	2·4
1904.													
Mean Temperature ..	60·0	66·8	64·2	63·0	63·1	56·8	57·9	55·0	59·7	55·9	54·9	54·5	52·4
Rainfall (inches) ..	·04	·10	1·08	2·34	·44	·29	1·05	1·70	·52	·54	2·12	·02	·54
Number of Deaths ..	1	3	3	2	8	19	19	24	10	7	1	6	2
Death-rate per 1,000* ..	0·3	0·9	0·9	0·6	2·4	5·6	5·6	7·1	3·0	2·1	0·3	1·8	0·6
1905.													
Mean Temperature ..	61·6	64·4	62·0	63·7	59·9	58·5	60·4	57·2	57·3	59·6	52·8	52·4	51·6
Rainfall (inches) ..	·04	·20	·09	·18	·27	·97	·48	·97	·64	1·23	0·5	·16	·06
Number of Deaths ..	—	—	—	3	4	5	6	9	5	2	3	2	1
Death-rate per 1,000* ..	—	—	—	0·9	1·2	1·4	1·7	2·6	1·4	0·6	0·9	0·6	0·3

*Persons living.

From the foregoing Tables it is found that the fatality from epidemic infantile diarrhœa is chiefly confined to the summer or third quarter of the year, and almost entirely to children under one year of age. The higher the temperature, the greater is the fatality. In another part of this report the association of infantile mortality with the milk supply has been alluded to, and it has been shown that the fatality falls more heavily upon infants who are receiving some food in addition to the breast-milk of the mother, or who are entirely fed artificially.

In the heat of the summer the organisms associated with diarrhœa multiply very rapidly in milk, which seems to be an ariticle of diet and medium most suitable to their growth and multiplication.

The chief preventive measures against infantile diarrhœa consist in scrupulous care and cleanliness in the preparation of infants' food. Under our present system of the supervision of the milk trade, it is essential in the summer weather that cows milk should be boiled for a few minutes, and then kept cool in a covered vessel.

It is well to remember that diarrhœa chiefly attacks infants who have been irregularly and improperly fed, and that much of the fatality from this disease is due to the ignorance of mothers upon this subject. With the object of conveying some knowledge to those concerned, I have drawn up a leaflet of instructions on infant feeding, which are distributed by the Woman Inspector.

TUBERCULOSIS.—The deaths from all forms of tuberculosis during the year 1905 amounted to 328, including 231 from pulmonary consumption or phthisis. The mortality from phthisis was equal to an annual death-rate of 1·28 per 1,000, the highest rate of any single disease during the year.

During the ten years 1895-1904 the average death-rate from phthisis amounted to 1·32 per 1,000. The mortality from phthisis in Cardiff since the year 1880 is shown in the following Table :—

Year.	Death-rate per 1,000.	Year.	Death-rate per 1,000.
1880	3·21	1893	1·68
1881	2·96	1894	1·62
1882	2·86	1895	1·67
1883	2·67	1896	1·38
1884	2·97	1897	1·99
1885	3·58	1898	1·32
1886	2·78	1899	1·32
1887	2·72	1900	1·25
1888	2·80	1901	1·05
1889	2·79	1902	1·29
1890	3·18	1903	1·19
1891	2·78	1904	1·36
1892	1·82	1905	1·28

The measures introduced in the year 1901 with the object of preventing the spread of consumption have been continued. The objectionable and dangerous practice of spitting in public places and vehicles has now become an offence punishable by fine under the provisions of two local bye-laws. Under the Tramways Act, 1870, a bye-law has been made, and came into operation during the year 1903, prohibiting, under a penalty, spitting in or on any car, and on the 1st December, 1904, a bye-law came into force, made under the powers of Sec. 23 of the Municipal Corporation Act, 1882, prohibiting spitting on the floor, side, or wall of any public carriage or of any public hall, public waiting room, or place of public entertainment, under a penalty not exceeding £5.

In March, 1903, the Sanitary Authority appointed a Woman Inspector, Miss Hoyle, whose duty it is to visit all cases of phthisis notified to the Medical Officer of Health, and to report to him on a printed form the circumstances connected with each case.

A system of voluntary notification of phthisis has been in operation in the City since the year 1901 ; medical practitioners being invited to notify cases coming under their care, upon terms similar to those in the Infectious Disease Notification Act. On the whole, this system has proved of service, those cases being notified in which the medical practitioner considers that the assistance of the officers of the Sanitary Authority would be desirable. Each case is visited immediately after the receipt of the notification, and the visit is repeated when necessary. The consumptives and their families are instructed personally, and by means of pamphlets, in the precautions necessary for preventing the spread of infection, and at the request, or with the consent of the medical man attending the case, some of the patient's sputum is taken to the Public Health Laboratory for the purpose of diagnosis. The bacteriological examination in all notified cases of phthisis being performed free of charge. In such cases also much good is effected by an inquiry into the sanitary condition of the premises occupied by the consumptives, as defects are remedied without delay.

In the event of a death from phthisis being returned by the Registrar, a post card is sent to the occupier of the house in which the death occurred, offering disinfection of the premises and of the infected articles.

During the year 1905, 167 notifications of phthisis were received by the Medical Officer of Health ; of these, 96 were males and 71 were females. Of the males, 37 were inmates of the Union Infirmary, and 8 were in receipt of outdoor relief ; of the females, 13 were inmates of the same Infirmary and 4 were in receipt of outdoor relief. One hundred and forty-seven applications were made for the disinfection of premises and articles in cases of phthisis. This was effected by the Sanitary Authority free of charge. Bacteriological examinations of sputum were made in 87 cases. Of these, 52 gave positive results, showing the presence of the tubercle baccilus, and 35 gave negative results. The notified cases of phthisis were visited by the Woman Inspector, Miss Hoyle, and the result of her inquiries are given below.

Occupation of the patients as stated at the time of visit :—

MALES.

No occupation	38	Hawker	1
Labourers	6	Rent Collector	1
Dock Labourers	7	Tea Packer	1
Boilermakers	2	Engineers	2
Clerks	2	Fitter	1
Not stated	9	Railway Guard	1
Scholars	8	Carpenters	3
Coal Trimmer	1	Motorman on Tramways	1
Hairdressers	2	Conductor	1
Pilot	1	Compositor	1
Printer	1	Cashier	1
Shoemakers	2	Waiter	1
Soldiers	2		

FEMALES.

Housewives	38	Scholars	9
No occupation	13	Governess	1
Not stated	2	Lady's Maid	1
Domestic Servants	6	Dressmaker	1

In some cases it was possible to discover the probable source of infection. This will be seen in the following table, which gives the list of relatives of patients visited who died from phthisis :—

Ref. No. in Register	Died from Phthisis
1	Father and son.
4	Brothers.
5	Husband.
12	Father, mother, brother and sister.
13	Mother.
16	Sister.
17	Husband.
18	Sister.
19	Husband.
20	Mother.
21	Father.
24	Father.
29	Brother.
32	Mother.
34	Father.
44	Sister.
52	Aunt.
54	Husband.
64	Brother.
65	Mother and sister.
66	Mother.
70	Mother and sister.
74	Mother.
84	Brother.
87	Sister.
90	Sister.
96	Mother.
97	Father.
100	Mother and sister.
101	Father.
106	Father and mother.
138	Father.
140	Mother.
150	Mother.
165	Father.

CARDIFF SANATORIUM.

The following Report of the Medical Superintendent shows that during the year 1905, 618 cases of infectious disease were under treatment, as compared with 861 in the year 1904.

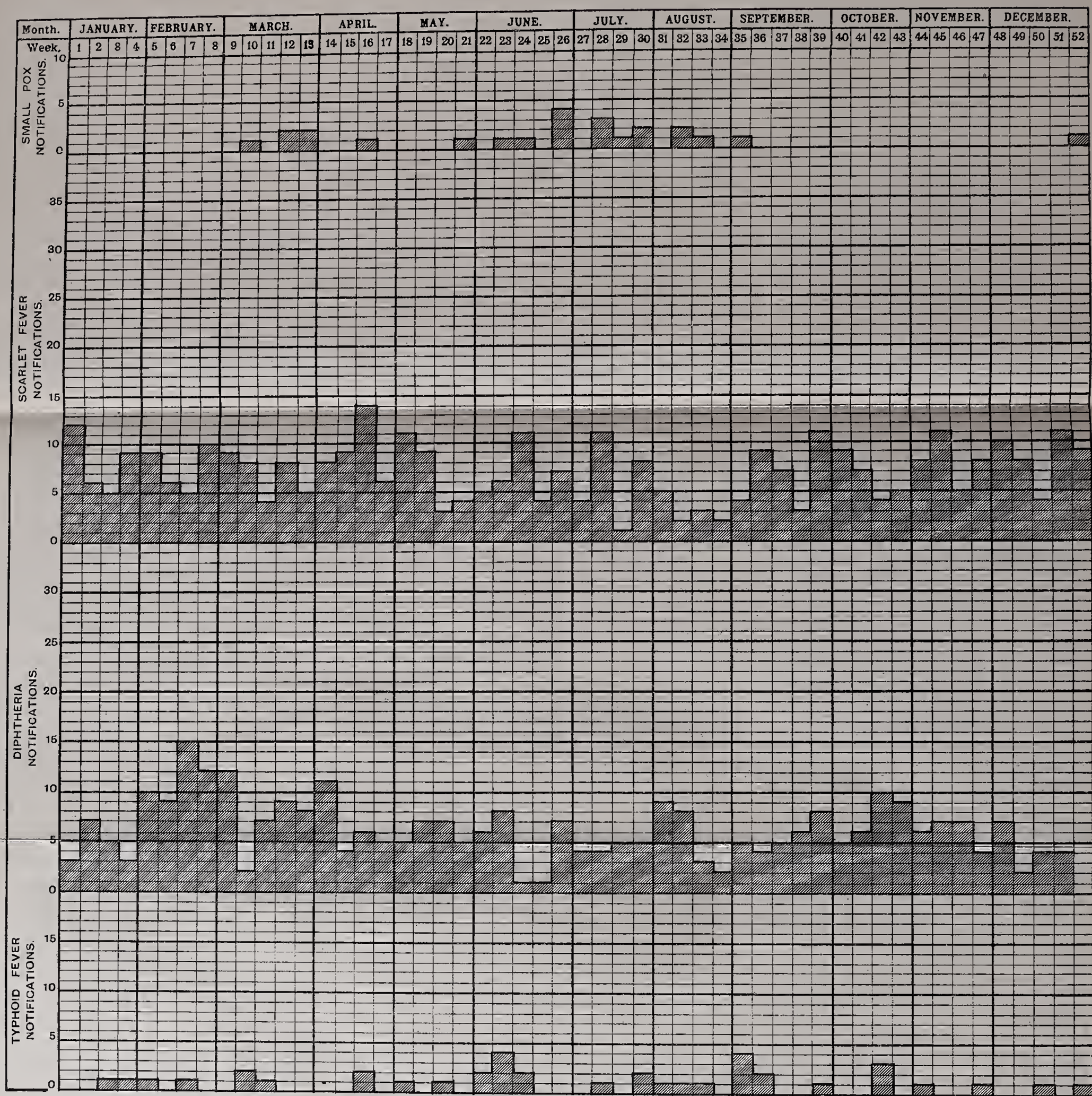
	0 to 5 years.	5 to 15 years.	15 to 25 years.	25 to 35 years.	35 to 45 years.	45 to 55 years.	55 to 65 years.	Total
Remaining in Hospital, 31st Dec., 1904:—								
Scarlet Fever	21	50	10	1	..	1	..	83
Enteric Fever	..	1	1	2	..	..	..	4
Diphtheria	3	13	4	..	..	..	..	20
Small-pox	..	..	..	..	..	..	..	..
Totals	24	64	15	3	..	1	..	107
Admitted during the year 1905—								
Scarlet Fever	109	135	24	7	1	..	..	276
Enteric Fever	..	7	10	8	1	1	..	27
Diphtheria	59	87	21	12	3	1	..	183
Small-pox	1	..	6	4	7	5	2	25
Totals	169	229	61	31	12	7	2	511
Totals under treatment in 1905 ..	193	293	76	34	12	8	2	618
Of the above there were discharged—								
(*a*) Recovered—								
Scarlet Fever	109	155	32	8	1	1	..	306
Enteric Fever	..	6	5	9	1	1	..	22
Diphtheria	55	90	23	11	3	1	..	183
Small-pox	1	..	6	4	7	5	1	24
Totals	165	251	66	32	12	8	1	535
(*b*) Died—								
Scarlet Fever	4	..	..	..	..	..	..	4
Enteric Fever	..	1	5	..	..	..	..	6
Diphtheria	4	4	..	..	..	..	..	8
Small-pox	..	..	..	..	..	..	..	..
Totals	8	5	5	..	..	..	..	18
Remaining in Hospital, 31st Dec., 1905—								
Scarlet Fever	17	30	2	..	..	..	..	49
Enteric Fever	..	1	1	1	..	..	..	3
Diphtheria	3	6	2	1	..	..	..	12
Small-pox	..	..	..	..	..	..	1	1
Totals	20	37	5	2	..	..	1	65
Totals under treatment in 1905 ..	193	293	76	34	12	8	2	618

Mortality per cent. under treatment—

Scarlet Fever ..	1·11	Diphtheria ..	3·94
Enteric Fever	19·3	Small-pox ..	nil.

B. W. BROAD, M.B., *Medical Superintendent.*

Weekly Notifications of Small Pox, Scarlet Fever, Diphtheria and Typhoid Fever, in Cardiff during 1905.



Summary of Work performed by the Officers of the Medical Officer of Health's Department, during the year 1905.

The following Tables show the nature and extent of the administrative work of the Department. This work is carried out by Mr. D. Vaughan, Chief Inspector of Nuisances, and his Assistants, acting under the supervision of the Medical Officer of Health, and I have pleasure in recording that the Inspectors have performed their difficult duties in a satisfactory manner.

For the purposes of inspection, the City is divided into six districts, as follows :—

District No. 1—comprising	.. Canton Ward Riverside Ward	W. Fisher, Cert. Roy. San. Inst.
,, No. 2 ,,	.. Splott Ward part of Adamsdown Ward	S. Jeffery, Cert. Roy. San. Inst.
,, No. 3 ,,	.. Park Ward part of Cathays Ward	F. Glover, Cert. Roy. San. Inst.
,, No. 4 ,,	.. Central Ward part of Cathays Ward part of South Ward	S. Evans, Cert. Roy. San. Inst.
,, No. 5 ,,	part of South Ward Grangetown Ward	T. W. Warren, Cert. Roy. San. Inst.
,, No. 6 ,,	.. Roath Ward part of Adamsdown Ward	J. Strange, Cert. Roy. San. Inst.

HOUSE INSPECTION FOR THE YEAR 1905.

CENTRAL WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective Water Closets.	Defective Traps.	Scullery Sinks connected direct with Drain.	Number of Water Closets.	Inside Water Closets not ventilated.	Outside Water Closets not ventilated.	Outside Water Closets not supplied with Water	Dampness of Premises.	Other Nuisances.
Scott Street	57	2	2	2	..	..	57	..	57	57	1	18
Edmund's Buildings	10	..	..	..	..	..	10	..	10	10	..	4
Gough Street	33	2	2	2	..	..	33	..	33	23	4	23
Raven Street	16	1	1	1	..	..	16	..	16	16	5	12
Havelock Place	4	2	..	2	..	..	4	..	4	2	2	2
Wood Street	68	3	2	..	..	..	68	..	63	45	8	38
East Terrace	21	1	1	..	..	..	21	..	21	20	5	11
Park Street	31	..	4	..	..	..	32	..	30	27	5	12
Frederick Street	110	5	4	..	..	..	108	..	97	84	11	34
Hill's Terrace	61	..	4	..	..	..	46	..	46	40	..	18
Union Street	79	..	3	..	..	..	79	..	79	76	..	36
Ebenezer Street	10	2	1	..	1	..	8	..	8	7	..	1
Hill's Street	9	..	..	..	..	..	2	..	2	1	..	1
Cross Street	2	..	..	..	..	..	2	..	2	2	1	2
Plymouth Street	5	..	..	..	..	..	5	..	5	2	1	..
Paradise Place	3	..	..	..	..	..	3	..	3	3	..	..
Friends' Place	3	..	..	..	..	..	3	..	3	3	1	..
Little Union Street	5	..	..	..	..	..	5	..	5	5	..	3
Trice's Court	3	..	..	..	..	..	2	..	2	2	..	1
Mack's Court	2	..	..	..	..	..	1	..	1	1	..	..
Davies' Court	3	..	..	..	..	..	2	..	2	2	..	..
Canal Street	30	2	2	1	1	..	24	..	24	24	5	12
Womanby Street	4	..	..	..	..	..	2	..	2	..	..	..
Harris' Court	6	..	..	..	..	..	2	..	2	..	..	1
Baker's Row	3	..	..	..	..	..	3	..	2	2	..	..
Eisteddfod Street	40	3	2	..	1	..	40	..	40	40	4	19
Thomas' Terrace	5	..	..	..	..	..	5	..	4	4	..	..
Roberts' Court	7	..	..	..	..	..	4	..	4	..	..	..
Carpenter's Arms Court ..	7	..	1	..	..	..	5	..	5	5	..	..
Rowe's Square	5	..	..	..	..	..	3	..	3	..	..	..
Green Garden Court	3	..	..	..	..	..	1	..	1	1	..	..
Rowland's Buildings	5	..	..	..	..	..	3	..	3	3	..	..
Evans' Court	1	..	..	..	1	..	1	..	..	..	..	..

SOUTH WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective Water Closets.	Defective Traps.	Scullery Sinks connected direct with Drain.	Number of Water Closets.	Inside Water Closets not ventilated.	Outside Water Closets not ventilated.	Outside Water Closets not supplied with Water	Dampness of Premises.	Other Nuisances.
Sophia Street	76	12	4	14	..	..	77	..	77	50	28	30
Frances Street	26	2	3	1	..	..	27	..	26	22	6	7
Canal Parade	23	3	..	7	3	..	23	..	23	23	6	5
Angelina Street	47	5	..	19	..	..	47	..	47	40	16	16
Nelson Street	22	2	..	3	2	..	22	..	22	22	2	2
Herbert Street	30	14	..	2	8	..	36	..	27	20	9	18
Maria Street	46	..	..	4	..	..	47	..	46	25	11	12
Crichton Place	12	..	..	..	..	..	11	..	11	9	..	1
Crichton Street	41	2	1	2	..	..	41	..	37	26	2	9
Peel Street	42	1	..	2	..	..	37	..	37	23	14	..
East Wharf	4	2	2	..	2	..	4	..	3	3	..	2
Wharf Street	4	..	..	..	..	..	1	..	1	1	..	..
South Church Street	27	..	..	1	..	..	27	..	27	20	7	8
West Church Street	14	3	..	2	1	..	14	..	14	12	6	6

PARK WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective Water Closets.	Defective Traps.	Scullery Sinks connected direct with Drain.	Number of Water Closets.	Inside Water Closets not ventilated.	Outside Water Closets not ventilated.	Outside Water Closets not supplied with Water	Dampness of Premises.	Other Nuisances.
Milton Street	132	5	6	6	1	..	133	..	133	129	35	88
Russell Street	45	2	1	2	..	..	45	..	45	45	17	35
Talworth Street	52	..	..	1	..	..	54	..	52	8	3	3
Pearson Street	13	..	..	1	..	..	13	..	13	12	2	4
Plasnewydd Road	42	1	1	..	..	..	43	..	41	39	..	8
Byron Street	49	..	..	2	..	..	49	..	49	..	10	23
Shakespeare Street	20	2	1	3	..	..	20	..	20	20	1	2
Crofts Street	27	6	..	6	..	..	27	..	27	27	3	3
Lily Street	30	2	1	2	..	..	30	..	27	28	6	10
Clive Place	9	2	2	1	..	..	9	..	9	9	..	..
Rose Street	47	..	..	1	..	..	47	..	47	47	9	14

ADAMSDOWN WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective Water Closets.	Defective Traps.	Scullery Sinks connected direct with Drain.	Number of Water Closets.	Inside Water Closets not ventilated.	Outside Water Closets not ventilated.	Outside Water Closets not supplied with Water.	Dampness of Premises.	Other Nuisances.
Comet Street	46	..	2	2	..	..	46	..	46	46	1	1
Eclipse Street	46	..	..	3	..	..	46	..	46	46	..	2
Planet Street	47	..	..	1	..	..	47	..	47	47	..	2
Tyndall Street	54	9	4	9	1	..	61	..	51	47	8	25
North William Street	35	3	2	4	..	..	35	..	31	35	1	17
Ellen Street	35	1	2	2	..	..	33	..	34	30	12	14
Rosemary Street	6	..	1	..	..	..	3	..	3	3	1	4
Thomas' Court	3	..	..	..	..	..	3	..	3	3	3	3
Roland Street	32	2	2	1	..	..	29	..	29	26	3	20
Pendoylan Street	29	1	1	1	1	..	30	..	30	28	3	13
Noah Street	7	..	..	..	..	..	7	..	3	3	1	5
South Terrace	6	..	..	..	..	..	6	..	6	6	1	2
Garth Court	5	..	..	..	..	..	4	..	..	4	3	3
Pellett Street	23	1	..	2	1	1	23	..	23	23	6	7
Meteor Street	40	2	..	2	..	..	40	..	38	38	..	8
Taff Street	21	..	3	1	..	..	9	..	9	9	2	5
Garth Street	21	1	1	3	..	..	16	..	16	15	4	8
Duffryn Street	21	2	..	1	..	..	18	..	18	18	2	12
Morgan Street	23	..	..	..	..	..	22	..	22	24	8	12
Godfrey Street	27	..	..	..	..	..	9	..	9	8	4	4
Ivor Street	30	1	1	1	1	..	22	..	22	21	3	5
Victoria Street	28	..	..	1	..	..	21	..	21	21	3	11
Davis Street	44	2	1	2	..	..	28	..	28	28	3	17
Buzzard Street	30	..	1	1	..	..	14	..	14	13	4	10
Kyte Street	5	..	..	..	..	..	5	..	..	..	1	4
Windsor Road	32	1	..	1	..	..	34	..	29	24	14	12
Sandon Place	36	..	..	..	..	..	34	..	34	33	10	18
Sandon Street	19	..	..	..	..	..	15	..	15	12	3	6
Adam Street	89	5	..	7	..	..	93	..	85	57	11	36

RIVERSIDE WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective Water Closets.	Defective Traps.	Scullery Sinks connected direct with Drain.	Number of Water Closets.	Inside Water Closets not ventilated.	Outside Water Closets not ventilated.	Outside Water Closets not supplied with Water	Dampness of Premises.	Other Nuisances.
Halket Street	30	..	..	2	..	..	30	..	30	28	..	19
Ann Street	25	1	..	..	..	..	24	..	24	24	..	8
South Morgan Street	34	..	1	3	..	..	34	..	34	31	..	5
North Morgan Street	13	..	..	3	3	..	13	..	13	13	..	3
Lewis Street	41	6	..	..	..	..	39	..	39	39	..	2
Pontcanna Terrace	11	..	..	2	..	..	11	..	11	11	..	2
William Street	6	..	..	2	..	..	6	..	6	6	..	6
Picton Place	11	..	..	..	2	..	11	..	11	7	..	..
Wyndham Street	67	..	1	6	6	..	68	..	68	55	..	15
Wyndham Place	16	..	..	..	..	..	16	..	16	12	..	2
Wyndham Road	83	..	1	3	7	..	83	..	83	64	..	20
Heath Street	11	..	..	..	..	..	11	..	11	11	..	3
Blackstone Street	17	..	1	1	..	..	16	..	17	17	..	3
Lewis' Court	8	..	..	1	..	..	8	..	8	8	..	5

CANTON.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective Water Closets.	Defective Traps.	Scullery Sinks connected direct with Drain.	Number of Water Closets.	Inside Water Closets not ventilated.	Outside Water Closets not ventilated.	Outside Water Closets not supplied with Water.	Dampness of Premises.	Other Nuisances.
Daisy Street	57	4	1	10	1	..	57	..	57	57	..	51
Loftus Street	34	1	2	3	..	..	34	..	34	34	..	21
Gray Street	55	1	..	11	..	..	56	..	56	43	..	27
Springfield Street	30	..	2	3	..	..	29	..	29	29	..	16
Springfield Place	27	..	1	1	1	..	26	..	26	26	..	18
Harvey Street	31	..	2	9	1	..	32	..	32	31	..	3
Glynne Street	53	..	..	3	..	..	52	..	52	52	..	13
Pontcanna Place	22	..	1	2	..	..	22	..	22	22	..	6
Picton Place	33	..	..	3	1	..	33	..	33	33	..	5
Railway Terrace	20	..	2	2	6	..	20	..	20	20	..	5

ROATH WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective Water Closets.	Defective Traps.	Scullery Sinks connected direct with Drain.	Number of Water Closets.	Inside Water Closets not ventilated.	Outside Water Closets not ventilated.	Outside Water Closets not supplied with Water	Dampness of Premises.	Other Nuisances.
Nora Street	74	..	3	3	..	..	75	..	72	71	..	35
Theodora Street	53	1	..	10	2	..	53	..	53	53	1	12
Bradley Street	40	..	1	3	1	..	40	..	40	40	..	7
Shakespeare Street	62	..	..	2	..	..	63	..	63	59	3	5
Topaz Street	60	1	1	1	..	..	59	..	59	59	..	3
Ruby Street	56	2	..	2	2	..	56	..	56	56	..	12
Pearl Street	204	..	1	7	..	..	180	..	176	189	3	41

GRANGETOWN WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective Water Closets.	Defective Traps.	Scullery Sinks connected direct with Drain.	Number of Water Closets.	Inside Water Closets not ventilated.	Outside Water Closets not ventilated.	Outside Water Closets not supplied with Water	Dampness of Premises.	Other Nuisances.
Thomas Street	45	9	1	9	..	..	46	..	45	45	19	20
Franklin Street	6	1	..	1	..	..	6	..	6	6	2	3
North Street	12	4	..	5	..	..	12	..	12	12	4	6
Madras Street	28	5	..	6	5	..	28	..	28	28	15	17
Lucknow Street	12	..	..	..	..	..	13	..	11	11	8	8

SPLOTT WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective Water Closets.	Defective Traps.	Scullery Sinks connected direct with Drain.	Number of Water Closets.	Inside Water Closets not ventilated.	Outside Water Closets not ventilated.	Outside Water Closets not supplied with Water	Dampness of Premises.	Other Nuisances.
Bridgend Street	59	1	2	1	..	..	51	..	51	20	10	29
Caerphilly Street	68	2	3	3	1	..	57	..	32	31	4	9
Llanelly Street	75	1	3	4	1	..	74	..	74	74	6	29

Report to the Medical Officer of Health of Mr. D. Vaughan, Chief Inspector of Nuisances and Inspector of Canal Boats, for the year 1905.

NUISANCES :—	
Nuisances inspected	3,679
Notices issued	3,221
Nuisances abated without legal proceedings	3,679
,, ,, with ,, ,,	1
Animals kept so as to be a nuisance	79
Injurious and foul accumulations	356
Nuisances from smoke	15
Stagnant water in cellars, &c.	1
Defective drainage	936
Drains unstopped and cleansed	136
,, trapped and repaired	31
,, tested	446
,, found defective	226
Foul and offensive w.c.'s cleansed	158
Defective apparatus to water closets repaired	59
Water laid on to water closets	13
,, ,, urinals	13
,, ,, dwelling-houses	55
Insufficient ventilation	7
Dilapidated houses repaired	1,241
Dirty houses and workshops cleansed and limewashed	89
Insufficient w.c. accommodation	11
Van used as a dwelling	1
Stable used as a dwelling	1
Overcrowding of dwelling-houses and workshops	16
DISINFECTION :—	
Houses disinfected	863
Articles of bedding and clothing disinfected	11,756
,, ,, ,, destroyed	329
OFFENSIVE TRADES :—	
Premises visited	1,035
SLAUGHTER HOUSES AND MARKETS :—	
Visits paid to slaughter-houses	321
,, ,, markets	213
Butchers' and provision shops inspected	4,573
COWSHEDS, MILKSHOPS AND DAIRIES :—	
Number of cowkeepers on register	19
Number of milksellers on register	593
Total	612
Number of cowkeepers registered during the year	3
Number of milksellers registered during the year	67
	70
Number of visits paid to cowsheds	260
,, ,, ,, milkshops	1,320
Notices served	40
	1,620

COWSHEDS, MILKSHOPS, AND DAIRIES.

Particulars of Inspection.	Cowsheds.	Milkshops.
Total number of inspections	260	1,320
Found in good condition	250	1,281
Water closets, sinks, or drains defective	5	13
Yards badly paved and accumulation of rubbish	5	26
Infectious disease amongst persons employed	—	3

CANAL BOATS.

Number of boats on register	27
,, inspections	100
,, boats found in good condition	77
,, ,, found with defective ventilators	17
Water vessels defective	4
Verbal notices served and complied with	23
Defective chimney	1
Defective roof	1

MAGISTERIAL PROCEEDINGS.

	Number of Cases.	Fines. £.	s	d.
Proceedings under Sale of Food and Drugs Act	15	53	0	0
,, ,, Seamen's Bye Laws	5	31	0	0
,, ,, Cowsheds and Milkshops Order	—		—	
,, ,, Public Health Act, 1875	1		—	
,, ,, Town Police Clauses Act (Sec. 31)	81	8	9	6
Total	102	92	9	6

I have the honour to be, Gentlemen,

Your obedient Servant,

EDWARD WALFORD,

Medical Officer of Health.

APPENDIX.

CITY OF CARDIFF.

LOCAL GOVERNMENT BOARD TABLE. TABLE I.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1905 AND PREVIOUS YEARS.

Year.	Population estimated to Middle of each Year.	Births.		Total Deaths Registered in the District.				Total Deaths in Public Institutions in the District.	Deaths of Non-residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	Nett Deaths at all Ages belonging to the District.	
				Under 1 Year of Age.		At all Ages						
		Number.	Rate.*	Number.	Rate per 1,000 Births registered.	Number.	Rate.*				Number.	Rate.*
1	2	3	4	5	6	7	8	9	10	11	12	13
1895	142,958	5,321	37.1	951	179	2,840	19·9	342	..	..	2,840	19·9
1896	146,479	5,591	38·1	923	165	2,826	19·2	364	31	..	2,795	19·0
1897	150,087	5,279	35·1	796	151	2,568	17·1	303	34	..	2,534	16·8
1898	153,783	5,520	35·9	870	158	2,684	17·4	312	57	..	2,627	17·0
1899	157,414	5,309	33·7	976	184	2,951	18·7	321	93	..	2,858	18·1
1900	161,452	5,198	35·2	730	141	2,745	17·0	314	78	..	2,667	16·5
1901	165,308	5,206	31·4	775	148	2,671	16·1	352	75	57	2,653	16·0
1902	168,909	5,278	31·2	769	145	2,909	17·2	486	88	44	2,865	16·9
1903	172,598	5,250	30·4	645	122	2,503	14·5	487	96	89	2,496	14·4
1904	176,313	5,208	29·5	751	144	2,704	15·3	458	96	87	2,695	15·2
Averages of years 1895 to 1904..	159,527	5,316	33·7	818	153	2,740	17·2	373	..	..	2,703	16·9
1905	180,054	5,140	28·5	607	118	2,485	13·8	442	108	66	2,443	13·5

* Rates in Colums 4, 8, and 13 are calculated per 1,000 of estimated population.

LOCAL GOVERNMENT BOARD TABLE—TABLE II.

VITAL STATISTICS OF SEPARATE LOCALITIES IN 1905 AND PREVIOUS YEARS.

Names of Localities.	CITY OF CARDIFF. (Whole District)				EAST CARDIFF. Registration Sub-District.				CENTRAL CARDIFF. Registration Sub-District.				WEST CARDIFF. Registration Sub-District.			
Year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.
1895 ..	142,958	5,321	2,840	951	..	..	..	..	..	..	..	..	..	..	..	..
1896 ..	146,479	5,591	2,795	923	..	..	..	..	..	..	..	..	..	..	..	..
1897 ..	150,087	5,279	2,534	796	45,282	1,736	643	240	54,184	1,528	909	250	50,051	2,015	982	306
1898 .	153,783	5,520	2,627	870	47,124	1,821	714	288	54,217	1,610	924	279	51,921	2,089	989	303
1899 ..	157,414	5,309	2,858	976	49,040	1,750	753	307	54,300	1,617	1,009	308	53,861	1,942	1,096	361
1900 ..	161,452	5,198	2,667	730	51,035	1,658	755	214	54,358	1,510	907	229	55,874	2,030	1,005	287
1901 ..	165,308	5,206	2,653	775	53,111	1,667	668	226	54,402	1,572	912	255	57,962	1,967	1,073	294
1902 ..	168,909	5,278	2,865	769	56,613	1,694	733	241	54,541	1,624	1,010	230	60,476	1,960	1,122	298
1903 .	172,598	5,250	2,496	645	57,013	1,643	633	194	54,299	1,561	853	206	61,339	2,046	1,010	245
1904 .	176,313	5,208	2,695	751	57,930	1,626	719	224	55,219	1,575	884	218	61,421	2,007	1,092	309
Averages of years 1895 to 1904	159,527	5,316	2,703	818	..	..	..	..	..	..	..	..	..	..	..	..
1905 .	180,054	5,140	2,443	607	58,445	1,634	636	175	55,343	1,536	843	187	61,351	1,970	964	245

LOCAL GOVERNMENT BOARD TABLE.

TABLE III.

CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1905.

NOTIFIABLE DISEASE.	Cases Notified in Whole District.							Total Cases Notified in each Locality.			No. of Cases Removed to Hospital from each Locality		
	At all Ages.	At Ages—Years.						East Cardiff Regis. Sub-Dist.	Central Cardiff Regis. Sub-Dist.	West Cardiff Regis. Sub-Dist.	East Cardiff Regis. Sub-Dist.	Central Cardiff Regis. Sub-Dist.	West Cardiff Regis. Sub-Dist.
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 and upwards.						
Small-pox	24	..	1	..	4	19	..	..	17	7	..	17	7
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria	316	3	95	152	34	32	..	77	84	155	58	46	78
Membranous Croup .. .	11	3	6	2	..	..	..	..	1	10	..	..	1
Erysipelas	133	6	3	8	20	88	8	27	51	55	..	..	..
Scarlet Fever	362	4	145	176	25	12	..	125	117	120	96	94	84
Typhus Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	39	1	1	14	10	13	..	6	11	22	3	6	14
Relapsing Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Continued Fever	3	..	..	1	..	2	..	..	..	3	..	..	..
Puerperal Fever	14	..	..	..	1	13	..	2	8	4	..	..	..
Plague	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	962	17	251	353	94	179	8	237	289	376	157	163	184

LOCAL GOVERNMENT BOARD TABLE.

TABLE IV.

CAUSES OF, AND AGES AT, DEATH DURING YEAR 1905.

CAUSES OF DEATH.	Deaths in or belonging to whole District at subjoined Ages.							Deaths in or belonging to Localities (at all Ages).			Total Deaths in Public Institutions in the District.
	All Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	East Cardiff Reg Sub.-Dis	Central Cardiff Reg. Sub.-Dis	West Cardiff Reg. Sub.-Dis	
Small-pox	..	..	..	..	..	..	..	..	..	..	..
Measles	80	19	57	4	..	..	..	22	24	34	1
Scarlet Fever	4	1	3	..	..	..	..	..	..	4	4
Whooping-cough	38	18	20	..	..	..	..	11	11	16	..
Diphtheria and Membranous Croup	23	2	11	10	..	..	..	3	5	15	10
Croup	..	..	..	..	..	..	..	..	..	..	..
Fever { Typhus	..	..	..	..	..	..	..	..	..	..	..
Fever { Enteric	8	..	..	3	3	2	..	1	2	5	8
Fever { Other continued ..	..	..	..	..	..	..	..	..	..	..	..
Epidemic Influenza ..	14	2	..	..	..	7	5	6	6	2	..
Diarrhœa	63	52	3	3	..	2	3	11	24	28	5
Enteritis	37	24	6	1	..	4	2	18	8	11	..
Puerperal Fever	5	..	..	..	2	3	..	..	4	1	..
Erysipelas	2	1	..	..	..	..	1	..	2	..	1
Other Septic Diseases ..	9	1	2	1	1	3	1	4	1	4	3
Phthisis	235	3	6	18	41	159	8	57	64	114	45
Other Tubercular Diseases	103	35	25	17	5	20	1	29	28	46	10
Cancer, Malignant Disease	111	..	..	1	1	77	32	25	38	48	35
Bronchitis	177	39	22	3	..	49	64	58	64	55	15
Pneumonia	220	56	41	7	10	80	26	61	72	87	25
Pleurisy	11	2	..1	..	3	5	..	2	4	5	2
Other Diseases of Respiratory Organs	18	4	4	..	..	9	1	6	2	10	1
Alcoholism .. / Cirrhosis of Liver ..	22	..	..	..	..	21	1	6	11	5	3
Venereal Diseases	10	6	1	..	..	3	..	2	3	5	2
Premature Birth	74	74	..	..	..	..	..	16	25	33	..
Diseases and Accidents of Parturition	15	..	..	..	..	15	..	3	4	8	3
Heart Diseases	248	5	3	5	13	141	81	70	80	98	32
Accidents	122	9	10	13	16	62	12	11	86	25	56
Suicides	12	..	..	..	2	7	3	2	6	4	1
WeatherAgencies,Sunstroke	1	..	1	..	..	..	..	1	..	..	..
General Paralysis	25	..	..	..	2	22	1	7	5	13	..
Other forms of Insanity ..	7	..	..	..	..	5	2	2	2	3	..
All Other Causes	749	254	37	16	26	210	206	202	262	285	180
All Causes	2,443	607	253	102	125	906	450	636	843	964	442

LOCAL GOVERNMENT BOARD TABLE. TABLE V.

INFANTILE MORTALITY DURING THE YEAR 1905.

DEATHS FROM STATED CAUSES IN WEEKS AND MONTHS UNDER ONE YEAR OF AGE.

	CAUSE OF DEATH.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under One Year.
All Causes.	Certified	96	24	21	24	165	75	49	48	43	36	25	31	31	35	24	44	606
	Uncertified	1	..	..	..	1	..	..	..	.	..	..	..	..	..	..	..	1
Common Infectious Diseases.	Small-pox	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	
	Chicken-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Measles	..	..	..	..	..	..	..	..	..	..	1	2	2	4	2	8	19
	Scarlet Fever..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
	Diphtheria: Croup	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	2
	Whooping Cough	..	..	..	..	..	1	4	1	1	4	2	1	1	1	1	1	18
Diarrhœal Diseases.	Diarrhœa, all forms	..	1	..	..	1	5	4	8	9	4	1	3	5	4	4	4	52
	Enteritis (*not Tuberculous*) ..	..	..	..	2	2	3	2	5	3	2	1	1	..	3	1	1	21
	Gastritis, Gastro-intestinal Catarrh	..	..	..	2	2	1	1	1	1	1	..	..	2	..	..	..	9
	Premature Birth	45	9	6	3	63	6	2	1	..	1	..	..	..	..	1	..	74
Wasting Diseases.	Congenital Defects	4	3	2	2	11	3	1	3	2	..	..	..	..	..	..	..	20
	Injury at Birth	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Want of Breast-milk ..	..	..	..	1	1	1	3	..	2	1	2	1	1	..	..	..	12
	Atrophy, Debility, Marasmus	20	3	3	6	32	20	4	7	3	1	1	2	1	3	1	..	75
Tuberculous Diseases.	Tuberculous Meningitis ..	..	..	..	..	..	2	..	1	..	1	1	1	..	1	..	2	9
	Tuberculous Peritonitis: Tabes Mesenterica	..	..	..	..	..	..	4	5	4	3	..	3	..	1	2	1	23
	Other Tuberculous Diseases..	..	..	..	..	..	..	1	..	..	1	..	2	1	1	..	..	6
	Erysipelas	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1
	Syphilis	..	1	..	..	1	1	1	1	..	..	..	..	1	1	..	..	6
	Rickets	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	2
	Meningitis (*not Tuberculous*)	1	..	1	..	2	2	2	1	2	2	1	2	3	2	2	1	22
	Convulsions	13	3	4	4	24	6	6	5	3	3	4	5	1	1	2	4	64
	Bronchitis	.	1	1	2	4	6	1	4	3	5	3	2	4	2	1	8	43
	Laryngitis	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	2
	Pneumonia	1	..	..	..	1	3	5	1	6	4	4	4	6	10	3	9	56
	Suffocation, overlaying ..	2	..	..	..	2	2	1	1	..	..	..	..	..	..	1	..	7
	Other Causes..	11	3	4	2	20	13	7	2	3	3	4	2	1	..	2	3	60
	Totals .	97	24	21	24	166	75	49	48	43	36	25	31	31	35	24	44	607

Births in the year { legitimate 4,976
illegitimate 164

CITY OF CARDIFF.

METEOROLOGICAL OBSERVATIONS FOR THE YEAR 1905.

MONTH.	Attached Thermometer.	Barometer. Inches.	TEMPERATURE IN SHADE. Maximum.	Minimum.	Mean of Maximum.	Mean of Minimum.	Mean of Month.	Earth. 1 foot mean.	Earth. 4 feet mean.	HYGROMETER. Dry bulb Mean.	Wet bulb Mean.	Relative Humidity.	RAINFALL. Amount in Inches.	Greatest Fall in 24 hours.	Date of Greatest Fall.	Days on which 0·01 or more rain fell.	DEATH-RATE per 1,000. All Causes.	Seven Chief Zymotic Diseases.
January .. .	55	30·272	54·2	20·0	44·5	32·1	38·3	42·0	46·5	37·7	36·3	87	1·34	0·37	16th	17	17·9	1·5
February	57	30·157	54·2	27·5	47·7	37·1	42·4	43·2	45·2	43·5	40·2	76	1·05	0·33	26th	13	14·6	1·5
March .. .	59	29·768	59·9	27·8	51·8	37·5	44·6	44·9	45·6	44·8	42·5	82	5·76	1·26	10th	22	13·0	1·0
April	58	29·887	58·1	31·5	52·6	40·1	46·3	48·0	47·6	46·8	44·0	79	2·81	0·46	10th	20	14·8	2·0
May .. .	60	30·102	69·9	31·0	61·0	40·7	50·8	52·8	50·2	53·2	47·7	66	0·15	0·06	1st	4	13·9	1·3
June	64	29·947	76·6	40·8	66·1	51·1	58·6	60·3	54·3	59·9	55·1	72	3·75	0·80	30th	18	10·7	1·0
July	68	29·999	79·3	46·0	70·9	54·6	62·7	64·8	58·7	64·4	59·4	72	0·88	0·37	1st	11	8·8	0·5
August	64	29·901	73·6	42·0	66·4	50·9	58·6	62·5	60·0	60·4	56·1	75	4·26	0·67	2nd	22	12·7	1·9
September .. .	60	29·947	67·9	36·2	61·3	47·3	54·3	59·9	58·7	55·4	52·2	80	1·57	0·52	9th	11	12·7	0·9
October .. .	57	30·037	63·7	23·2	53·8	37·0	45·4	50·6	55·2	46·2	43·4	79	2·23	0·52	31st	9	11·1	0·3
November .. .	57	29·767	53·7	20·0	47·8	33·4	40·6	44·0	50·3	39·9	38·8	91	3·68	0·75	10th	18	12·7	0·4
December	56	30·094	53·0	26·0	45·9	34·8	40·3	42·2	46·9	39·9	38·9	92	1·87	0·55	7th	14	14·9	0·7

Mean temperature of each month in the year, during the ten years 1896–1905.

Month.	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
January	41°6	35°9	44°0	42°2	36°5	37°9	36°5	40°5	38°5	38°3
February	40°8	43°5	41°3	41°3	39°8	37°8	36°1	45°1	39°0	42°4
March	45°9	44°6	41°1	42°1	38°3	40°6	43°8	45°9	40°3	44°6
April	48°0	46°3	46°6	47°2	46°6	46°9	42°7	44°5	47°8	46°3
May	52°9	49°1	49°9	52°0	50°4	53°5	48°8	58°0	51°4	50°8
June	61°4	59°5	55°9	59°8	55°3	57°3	56°8	54°9	57°2	58°6
July	61°4	62°7	60°6	63°8	63°9	64°2	58°8	56°9	63°0	62°7
August	58°6	60°9	61°5	68°3	59°8	60°0	58°7	58°1	60°1	58°6
September	56°8	54°4	58°8	57°8	55°5	57°7	55°2	55°8	55°0	54°3
October	46°2	51°2	52°7	48°9	49°1	49°7	50°1	52°1	50°7	45°4
November	39°9	46°1	45°7	47°0	44°5	41°5	43°3	50°4	42°0	40°6
December	40°0	42°5	46°7	37°3	43°5	40°9	40°2	39°0	40°8	40°3

The following Table illustrates the daily direction of wind throughout the year 1905.

Direction of Wind.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year 1905
N.	..	..	..	1	1	..	..	..	3	..	..	1	6
N.E.	7	3	3	7	11	11	7	5	10	6	12	5	87
N.W.	..	4	2	3	6	2	5	1	6	16	6	3	54
S.	..	..	..	2	..	1	..	6	1	1	1	2	14
S.E.	4	3	4	4	..	3	3	2	..	..	3	5	31
S.W.	18	15	21	10	11	11	14	15	8	6	8	4	141
E.	1	..	..	2	1	1	1	2	1	..	..	4	13
W.	1	3	1	1	1	1	1	..	1	2	..	7	19

TABLE SHOWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THE THIRTY YEARS, 1876—1905.

YEAR.	JANUARY.				FEBRUARY.				MARCH.			
	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.
1876	1·91	12	0·68	2nd	5·23	22	0·90	14th	3·92	22	0·54	9th
1877	5·77	27	0·72	3rd	2·79	20	0·42	11th	2·66	21	0·55	23rd
1878	1·73	17	0·36	27th	3·07	16	0·87	27th	1·25	8	0·40	28th
1879	5·95	10	1·30	11st	5·95	23	0·86	20th	1·14	14	0·32	23rd
1880	0·87	11	0·42	13th	3·88	22	1·06	18th	1·90	12	0·75	2nd
1881	0·92	12	0·23	26th	4·81	15	1·12	9th	3·88	16	0·68	3rd
1882	3·19	13	0·82	2nd	2·56	15	0·60	28th	2·26	19	0·32	1st
1883	5·75	25	1·11	24th	3·73	20	0·65	10th	0·60	10	0·12	19th
1884	6·03	21	0·99	31st	4·40	22	1·35	17th	3·39	16	1·27	3rd
1885	3·71	20	0·58	9th	3·65	22	0·67	26th	1·87	16	0·53	29th
1886	5·03	23	0·91	30th	1·32	11	0·62	28th	3·97	13	0·68	20th
1887	2·76	15	0·73	7th	1·45	6	0·73	3rd	3·21	10	1·16	15th
1888	1·70	12	0·49	1st	1·07	9	1·09	2nd	4·62	15	0·76	24th
1889	1·58	10	0·58	9th	2·00	16	0·64	10th	3·89	16	1·17	8th
1890	5·21	24	0·61	26th	0·55	7	0·22	19th	1·52	14	0·28	24th
1891	3·58	13	1·26	23rd	0·05	2	0·03	2nd	1·76	16	0·31	15th
1892	2·10	15	0·70	16th	2·38	19	0·58	20th	1·18	6	0·48	15th
1893	2·38	19	0·94	12th	6·04	22	0·95	25th	0·31	6	0·14	2nd
1894	3·20	23	0·44	19th	3·68	20	0·78	17th	3·37	13	0·82	1st
1895	3·88	20	0·71	19th	0·17	4	0·08	24th	3·92	21	0·85	27th
1896	0·64	6	0·40	24th	1·39	9	0·80	13th	4·47	24	0·54	7th
1897	3·78	17	0·50	31st	5·73	21	0·70	4th	6·29	19	0·90	31st
1898	1·96	10	0·48	10th	1·71	17	0·22	18th	1·12	9	0·53	6th
1899	5·50	20	1·03	20th	3·89	13	0·79	4th	1·39	6	0·88	25th
1900	5·81	23	1·26	6th	6·40	20	0·99	18th	1·06	6	0·33	21st
1901	2·48	17	0·59	26th	1·01	10	0·25	26th	2·10	12	0·31	6th
1902	2·60	18	0·72	3rd	1·25	9	0·40	22nd	2·58	13	0·54	14th
1903	5·81	24	1·69	4th	2·19	20	0·48	24th	5·80	26	0·65	1st
1904	5·60	26	0·89	11th	5·81	24	0·78	10th	2·97	19	0·65	7th
1905	1·34	17	0·37	16th	1·05	13	0·33	26th	5·76	22	1·26	10th

TABLE SHOWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THE THIRTY YEARS, 1876—1905.

YEAR.	APRIL.				MAY.				JUNE.			
	Rainfall in Month. Inches	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.
1876	1·91	17	0·38	28th	0·23	4	0·12	24th	1·91	9	0·52	15th
1877	2·90	20	0·52	20th	2·47	14	0·99	16th	1·48	12	0·41	1st
1878	4·10	21	0·75	9th	4·32	24	0·71	16th	3·68	15	1·05	16th
1879	2·64	17	0·73	19th	2·85	15	0·88	29th	6·48	23	1·64	30th
1880	1·98	13	0·40	5th	1·45	11	0·46	26th	2·38	19	0·53	17th
1881	1·44	7	0·60	13th	2·62	10	1·73	17th	3·59	18	0·63	16th
1882	5·68	20	0·60	12th	2·72	13	0·59	22nd	4·28	20	0·82	5th
1883	0·67	7	0·28	26th	1·90	12	0·70	11th	1·81	17	1·16	27th
1884	1·56	11	0·43	3rd	2·37	14	0·50	2nd	1·92	9	1·11	28th
1885	2·52	16	0·67	1st	3·86	27	0·71	19th	2·61	13	1·04	23rd
1886	2·98	15	0·73	7th	6·38	19	1·52	31st	0·70	7	0·28	1st
1887	1·63	10	0·45	26th	1·94	14	0·63	19th	0·60	4	0·51	2nd
1888	1·48	13	0·30	17th	1·69	8	0·40	17th	3·69	17	0·74	17th
1889	3·54	18	0·71	30th	2·51	16	0·38	31st	0·58	6	0·41	1st
1890	1·80	14	0·34	6th	1·99	13	0·66	9th	2·46	17	0·40	10th
1891	2·02	11	0·40	2nd	3·41	17	0·75	21st	2·47	12	1·30	24th
1892	1·27	9	0·43	20th	1·35	11	0·66	27th	1·93	10	0·61	28th
1893	0·29	5	0·16	1st	2·80	12	0·72	19th	0·67	9	0·23	22nd
1894	2·05	15	0·41	23rd	2·18	15	0·50	15th	2·43	16	0·64	3rd
1895	2·08	12	0·55	24th	0·50	3	0·41	31st	1·15	9	0·32	30th
1896	2·83	14	0·80	15th	9·22	3	0·14	13th	2·48	11	1·00	7th
1897	8·18	20	0·90	13th	2·29	8	0·50	29th	5·02	11	0·90	8th
1898	1·40	10	0·28	11th	4·80	20	0·80	11th	5·06	14	0·90	4th
1899	4·34	18	0·92	20th	2·49	12	0·78	19th	1·17	5	0·45	30th
1900	1·62	12	0·42	3rd	1·89	13	0·37	21st	1·73	14	0·27	14th
1901	4·54	14	0·91	3rd	0·91	5	0·42	30th	3·00	9	1·22	20th
1902	2·36	9	0·54	4th & 14th	2·43	21	0·55	16th	2·86	20	0·45	12th
1903	2·48	16	0·75	25th	4·48	21	1·39	8th	3·11	15	0·90	9th
1904	2·44	21	0·35	29th	3·05	23	0·53	24th	1·29	9	0·58	14th
1905	2·81	20	0·46	10th	0·15	4	0·06	1st	3·75	18	0·80	30th

TABLE SHOWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THIRTY YEARS, 1876—1905.

YEAR.	JULY.				AUGUST.				SEPTEMBER.			
	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.
1876	1·91	10	0·41	6th	6·06	27	2·72	19th	7·08	19	1·28	30th
1877	4·94	18	1·27	14th	5·70	21	1·42	27th	3·25	8	1·39	27th
1878	2·01	9	0·78	23rd	10·82	24	3·64	15th	3·21	9	1·28	22nd
1879	4·00	21	0·81	19th	8·12	22	1·34	27th	4·85	17	0·69	7th
1880	6·64	23	0·95	17th	0·77	7	0·27	2nd	3·67	15	0·77	17th
1881	2·62	15	0·77	30th	6·94	20	1·45	22nd	2·09	13	0·48	22nd
1882	5·77	24	0·84	6th	6·75	16	1·14	22nd	3·94	17	0·79	28th
1883	3·56	21	0·82	20th	2·09	16	0·73	8th	6·14	19	1·53	23rd
1884	4·05	20	0·94	23rd	2·21	9	0·84	31st	1·96	15	0·64	21st
1885	0·72	6	0·31	18th	2·74	12	1·07	6th	6·51	23	1·76	10th
1886	4·85	17	0·71	29th	1·68	9	0·44	9th	4·08	14	0·75	4th
1887	1·51	13	0·85	26th	2·88	11	1·02	16th	4·07	17	1·24	1st
1888	6·83	25	1·16	7th	3·50	17	0·74	29th	1·21	8	0·52	27th
1889	3·85	12	1·16	9th	3·90	15	0·65	2nd	2·09	9	1·53	23rd
1890	3·57	19	0·73	17th	3·95	20	0·95	9th	1·57	11	0·50	17th
1891	2·21	17	0·36	2nd	7·19	22	1·10	26th	2·43	19	0·51	3rd
1892	3·83	9	1·50	12th	4·64	16	1·62	27th	3·95	14	1·38	29th
1893	3·88	17	0·80	10th	3·05	14	0·52	20th	2·03	15	0·89	28th
1894	4·22	20	0·97	24th	4·55	18	1·55	25th	2·22	10	0·80	22nd
1895	4·71	15	0·94	23rd	4·08	17	1·19	12th	1·17	10	0·40	6th
1896	1·14	8	0·35	24th	2·89	15	0·84	19th	7·34	23	1·10	17th
1897	2·51	8	0·80	6th	5·42	16	1·30	30th	6·37	13	1·38	29th
1898	0·40	2	0·20	1st	3·48	10	0·67	6th	1·94	4	1·38	29th
1899	0·32	6	0·09	1st	1·74	7	0·56	29th	2·59	13	0·74	26th
1900	0·68	8	0·27	27th	4·06	14	0·88	9th	1·32	10	0·50	26th
1901	2·58	8	1·00	23rd	4·00	14	1·30	13th	4·36	17	1·52	13th
1902	2·19	15	0·77	19th	4·21	23	0·68	14th	3·13	15	0·86	10th
1903	3·53	16	1·06	17th	5·84	26	0·72	23rd	3·73	21	0·92	28th
1904	4·13	19	1·69	25th	3·56	17	0·69	22nd	3·49	13	0·70	14th
1905	0·88	11	0·37	1st	4·26	22	0·67	2nd	1·57	11	0·52	9th

TABLE SHOWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THE THIRTY YEARS, 1876—1905.

YEAR.	OCTOBER.				NOVEMBER.				DECEMBER.				YEAR.
	Rainfall in Month Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall per annum. Inches.
1876	3·84	17	0·62	16th	5·27	18	0·75	12th	7·13	23	0·80	17th	46·62
1877	4·89	16	1·15	24th	6·54	25	1·06	24th	3·40	25	0·88	28th	46·79
1878	5·76	18	1·09	23rd	5·76	13	0·84	9th	2·70	10	0·75	28th	45·71
1879	1·51	12	0·35	19th	0·43	8	0·18	20th	2·11	9	0·79	31st	44·79
1880	4·94	15	1·45	25th	3·67	15	0·90	15th	6·70	20	1·09	14th	38·85
1881	3·23	13	0·72	22nd	4·98	23	0·65	26th	4·50	45	1·77	7th	41·62
1882	8·33	23	1·64	23rd	6·26	21	0·90	7th	4·86	25	0·73	31st	56·60
1883	4·23	17	0·61	15th	6·38	24	0·80	21st	1·92	17	0·57	10th	38·78
1884	1·01	17	0·35	8th	2·12	16	0·47	30th	5·87	20	0·68	5th	36·89
1885	5·59	22	1·60	22nd	5·47	16	1·11	27th	1·74	17	0·05	5th	40·99
1886	5·09	21	0·87	15th	5·39	21	1·03	5th	6·64	21	1·33	26th	48·11
1887	2·80	13	1·14	29th	3·48	21	0·69	3rd	3·46	20	0·75	12th	29·79
1888	1·74	11	0·52	28th	7·04	26	1·13	12th	3·61	16	0·88	27th	38·18
1889	3·77	25	0·48	8th	1·87	12	0·75	24th	2·40	14	0·80	21st	31·38
1890	1·92	16	0·41	7th	3·89	20	0·67	6th	0·80	4	0·33	18th	29.23
1891	7·12	22	1·32	18th	3·91	15	0·74	28th	6·19	19	0·78	30th	42·34
1892	2·64	15	0·51	27th	3·25	18	0·66	4th	2·23	12	0·62	1st	22·63
1893	5·98	21	1·29	4th	2·30	13	0·58	1st	4·18	19	0·94	12th	33·91
1894	4·91	14	1·05	24th	4·72	20	0·83	13th	3·66	20	0·51	17th	41·19
1895	3·67	15	0·94	3rd	4·21	23	0·60	5th	3·45	31	0·48	17th	32·64
1896	4·65	19	0·74	5th	0·96	5	0·60	15th	6·41	22	0·72	4th	35·42
1897	3·22	7	0·90	2nd	1·82	7	0·63	27th	6·06	18	1·19	7th	56·80
1898	7·30	18	1·13	17th	7·46	16	1·39	23rd	5·44	17	1·03	6th	42·07
1899	2·34	12	0·60	27th	3·29	11	0·95	9th	3·69	19	0·86	28th	32·75
1900	5·79	21	1·06	29th	4·99	22	0·71	24th	6·55	26	1·06	30th	41 90
1901	2·64	21	0·37	1st	1·50	8	0·51	11th	7·15	21	0·99	7th & 28th	36·27
1902	3·88	21	0·96	21st	4·97	20	1·30	8th	3·95	18	0·83	28th	36·41
1903	11·06	31	2·16	14th	2·40	19	0·53	27th	4·24	21	0·69	8th	54·97
1904	2·48	18	0·85	16th	3·50	15	0·80	6th	3·40	25	0·67	5th	41·72
1905	2·23	9	0·52	31st	3·68	18	0·75	10th	1·87	14	0·55	7th	29·35

DEATHS FROM SPECIFIED CAUSES AT ALL AGES, AND AT SIX GROUPS OF AGES,

During the Year 1905. Estimated Population, 180,054.

Causes of Death.	0 to 1		1 to 5		5 to 15		15 to 25		25 to 65		65 and upwards.		All Ages.			Rate per 1,000 living.
All Causes.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.	
Measles	10	9	29	28	2	2	..	..	..	..	..	..	41	39	80	0·44
Scarlet Fever	..	1	1	2	..	..	..	..	..	..	..	..	1	3	4	0·02
Epidemic Influenza	2	..	..	..	..	1	..	..	4	2	2	3	8	6	14	0·07
Whooping Cough	11	7	9	11	..	..	..	..	..	..	..	..	20	18	38	0·21
Diphtheria, Membranous Croup	2	..	9	2	3	7	..	..	..	..	..	..	14	9	23	0·12
Enteric Fever	..	..	..	..	2	1	3	..	1	1	..	..	6	2	8	0·04
Diarrhœa, Dysentery	22	19	1	1	..	1	..	..	1	1	1	2	25	24	49	0·27
Epidemic or Zymotic Enteritis	10	1	..	1	2	..	..	..	..	..	..	..	12	2	14	0·07
Anthrax, Splenic Fever	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1	0·00
Syphilis	3	3	..	1	..	..	..	..	..	3	..	..	3	7	10	0·05
Erysipelas	1	..	..	..	..	..	..	..	..	..	1	..	2	..	2	0·01
Puerperal Fever	..	..	..	..	..	..	..	2	..	3	..	..	..	5	5	0·02
Pyæmia, Septicæmia	..	..	..	..	1	..	1	..	1	1	..	..	3	1	4	0·02
Other Allied Diseases	1	..	..	2	..	..	..	..	1	..	1	..	3	2	5	0·02
Rheumatic Fever	..	..	..	..	..	1	2	2	3	4	..	..	5	7	12	0·06
Rheumatism of the Heart	..	..	..	..	..	..	..	..	1	1	..	..	1	1	2	0·01
Tuberculosis of Brain or Meninges, Acute Hydrocephalus	4	5	7	6	6	3	..	..	3	..	..	..	20	14	34	0·18
Tuberculosis of Larynx	..	..	..	..	..	..	..	..	2	..	..	..	2	..	2	0·01
Tuberculosis of Lungs, Phthisis, Phthisis Pulmonalis	2	1	5	1	9	9	20	15	80	81	5	3	121	110	231	1·28
Tuberculosis of Intestines, Tabes Mesenterica	9	10	3	6	2	1	..	1	..	..	..	..	14	18	32	0·17
General Tuberculosis, Tubercular Disease of undefined position	2	1	2	..	3	1	..	2	5	3	..	..	12	7	19	0·10
Other forms of Tuberculosis, Scrofula	4	..	1	..	..	1	1	1	..	1	..	1	6	4	10	0·05
Acute Alcoholism, Delirium Tremens	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1	0·00
Chronic Alcoholism	..	..	..	..	..	..	..	..	..	3	..	..	..	3	3	0·01
Osteo-arthritis, Rheumatoid Arthritis	..	..	..	..	..	..	1	..	2	2	..	1	3	3	6	0·03
Gout	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	0·00
Cancer	..	..	..	..	..	1	..	1	38	41	21	9	59	52	111	0·61
Diabetes Mellitus	..	..	..	..	..	..	1	..	3	3	4	1	8	4	12	0·06
Purpura Hæmorrhagica	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1	0·00
Anæmia, Leucocythæmia	..	..	..	..	..	1	1	..	3	3	1	..	5	4	9	0·04
Lymphadenoma, Hodgkin's Disease	..	..	..	..	..	..	..	..	1	1	..	..	1	1	2	0·01
Premature Birth	53	21	..	..	..	..	..	..	..	..	..	..	53	21	74	0·41
Debility at Birth	38	27	..	..	..	..	..	..	..	..	..	..	38	27	65	0·36
Congenital Defects	10	8	2	..	..	..	..	..	..	..	..	..	12	8	20	0·11
Want of Breast Milk	4	7	..	..	..	..	..	..	..	..	..	..	4	7	11	0·06
Atrophy, Debility, Marasmus	9	9	1	..	..	1	..	1	..	5	1	..	11	16	27	0·14
Dentition	..	4	..	..	..	..	..	..	..	..	..	..	..	4	4	0·02
Rickets	1	1	..	2	..	..	1	..	..	..	..	..	2	3	5	0·02
Old Age, Senile Decay	..	..	..	..	..	..	..	..	3	5	37	67	40	72	112	0·62
Convulsions	39	25	6	3	..	..	..	..	2	..	..	..	47	28	75	0·41
Meningitis	12	10	6	6	4	1	2	..	1	1	1	..	26	18	44	0·24
Encephalitis	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	0·00
Apoplexy	..	..	..	..	..	..	..	..	5	11	12	7	17	18	35	0·19
Softening of Brain	..	..	..	..	..	..	..	..	2	1	..	..	2	1	3	0·01
Hemiplegia, Brain Paralysis	..	..	..	..	..	..	..	..	5	2	11	5	16	7	23	0·12
General Paralysis of Insane	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	0·00
Other forms of Insanity	..	..	..	..	..	..	..	..	..	2	2	2	2	4	6	0·03
Cerebral Tumour	..	..	..	..	1	..	..	1	1	1	..	..	2	2	4	0·02
Epilepsy	..	..	..	..	..	..	..	1	5	1	..	1	5	3	8	0·04
Locomotor Ataxy	..	..	..	..	..	..	..	..	2	1	..	..	2	1	3	0·01
Paraplegia, Diseases of Spinal Cord	..	1	..	1	1	1	..	1	3	8	3	1	7	13	20	0·11
Other and ill-defined Diseases of Brain or Nervous System	2	1	..	..	..	..	..	..	2	3	..	..	4	4	8	0·04
Otitis, Otorrhœa	1	..	3	1	1	1	..	..	..	2	..	..	5	4	9	0·04
Pericarditis	..	..	..	..	..	..	..	..	..	2	..	..	..	2	2	0·01
Endocarditis, Valvular Diseases of the Heart	..	..	..	1	..	2	1	1	14	8	2	1	17	13	30	0·16
Angina Pectoris	..	..	..	..	..	..	..	..	1	..	1	..	2	..	2	0·01
Aneurism	..	..	..	..	..	..	..	..	10	..	..	..	10	..	10	0·05
Senile Gangrene	..	..	..	..	..	..	..	..	..	..	1	1	1	1	2	0·01
Embolism, Thrombosis	..	..	..	..	..	..	..	..	4	4	1	3	5	7	12	0·06
Varicose Veins	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1	0·00
Other and ill-defined Diseases of Heart and Circulatory System	5	..	1	1	1	2	6	5	50	44	30	40	93	92	185	1·02
Laryngitis	..	2	2	1	..	..	..	..	..	1	..	1	2	5	7	0·03
Croup	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1	0·00
Acute Bronchitis	18	20	15	7	1	2	..	..	3	4	4	2	41	35	76	0·42
Chronic Bronchitis	1	..	..	..	..	..	..	..	22	20	25	32	48	52	100	0·55
Lobar, Croupous, Acute Pleuro-Pneumonia	4	..	3	1	..	1	..	2	9	6	4	..	20	10	30	0·16
Lobular, Catarrhal, Broncho-Pneumonia	22	14	12	13	..	..	..	..	4	5	3	4	41	36	77	0·42
Pneumonia, form not stated	11	5	5	7	6	1	4	3	37	14	11	4	74	34	108	0·59
Emphysema, Asthma	..	..	..	..	..	..	..	..	3	2	..	..	3	2	5	0·02
Pleurisy	1	1	1	..	..	..	1	2	4	1	..	..	7	4	11	0·06
Other and ill-defined Diseases of Respiratory System	1	1	..	..	..	..	..	..	..	3	..	..	1	4	5	0·02
Diseases of Mouth and Annexa	1	..	..	..	..	..	..	..	..	..	1	..	2	..	2	0·01
Diseases of Pharynx	..	1	..	..	..	..	..	..	..	..	..	..	..	1	1	0.00
Ulcer of Stomach and Duodenum	..	..	..	..	..	..	..	..	2	1	..	..	2	1	3	0·01
Other Diseases of Stomach	7	3	1	..	..	1	..	..	2	6	..	1	10	11	21	0·11
Enteritis	15	9	1	5	..	1	..	..	1	3	1	1	18	19	37	0·20
Appendicitis	..	1	..	..	..	1	3	3	2	1	..	1	5	7	12	0·06
Obstruction of Intestine	1	2	..	..	..	..	..	..	1	5	2	2	4	9	13	0·20
Other Diseases of Intestine	..	..	1	..	..	..	..	..	..	1	..	..	1	1	2	0·01
Cirrhosis of Liver	..	..	..	..	..	..	..	..	11	7	1	..	12	7	19	0·10
Other Diseases of Liver	1	..	..	1	..	..	..	..	4	3	1	3	6	7	13	0·20
Peritonitis	1	..	..	..	1	..	..	..	1	1	..	1	3	2	5	0·02
Other and ill-defined Diseases of Digestive System	1	3	..	1	..	..	..	1	2	1	..	1	3	7	10	0·05
Diseases of Lymphatic System and Ductless Glands	..	..	..	..	..	..	..	..	..	2	3	..	3	2	5	0·02
Acute Nephritis	..	..	..	1	..	..	..	1	10	10	1	1	11	13	24	0·13
Bright's Disease	..	..	..	..	..	..	1	..	9	7	3	4	13	11	24	0·13
Calculus	..	..	..	..	..	..	..	..	1	1	..	..	1	1	2	0·01
Diseases of Bladder and Prostate	..	..	..	..	..	..	..	..	2	..	4	..	6	..	6	0·03
Other and ill-defined Diseases of Urinary System	..	..	..	..	..	..	..	..	2	2	1	..	3	2	5	0·02
Diseases of Ovaries	..	..	..	..	..	..	..	..	1	2	..	..	1	2	3	0·01
Diseases of Uterus and Appendages	..	..	..	..	..	..	..	..	1	3	..	..	1	3	4	0·02
Diseases of Breast	..	1	..	..	..	..	..	..	..	..	..	..	..	1	1	0·00
Abortion, Miscarriage	..	..	..	..	..	..	..	..	..	3	..	..	..	3	3	0 01
Placenta Prævia, Flooding, Accidental Hæmorrhage	..	..	..	..	..	..	..	..	..	2	..	..	..	2	2	0 01
Other and ill-defined Accidents and Diseases of Pregnancy and Childbirth	..	..	..	..	..	..	..	..	..	6	..	..	..	6	6	0·03
Arthritis, Ostitis, Periostitis	..	1	..	..	..	..	..	..	..	1	..	2	..	4	4	0·02
Other and ill-defined Diseases of Osseous System	1	..	..	..	..	..	..	..	2	2	1	2	4	4	8	0·04
Eczema	1	1	..	..	..	..	..	..	..	..	..	..	1	1	2	0·01
Pemphigus	3	..	..	..	..	..	..	..	..	..	..	..	3	..	3	0·01
Other and ill-defined Diseases of Integumentary System	..	1	..	..	..	..	..	..	..	..	..	..	..	1	1	0·00
By Accident or Negligence	4	3	4	7	8	5	11	3	54	9	8	4	89	31	120	0·66
Weather Agencies, Sunstroke	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1	0·00
Suicides, all Forms	..	..	..	..	..	..	2	..	5	2	2	1	9	3	12	0·06
Suffocation	..	1	..	..	..	..	..	..	..	..	..	..	..	1	1	0·00
Strangulation	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1	0·00
Sudden Death (cause not ascertained)	3	5	..	..	..	..	..	..	4	3	4	..	11	8	19	0·10
Other ill-defined and not Specified Causes	3	3	..	..	..	..	..	..	4	4	..	1	7	8	15	0·08
Totals	358	249	132	122	54	50	62	49	465	401	219	216	1,290	1,087	2,377	13·2

CITY OF CARDIFF.

ESTIMATED POPULATION

1905—180,054.

DIAGRAM SHOWING

Birth-rate (BLUE) } Per 1,000 of the estimated
Death-rate (BLACK) } population, 1905

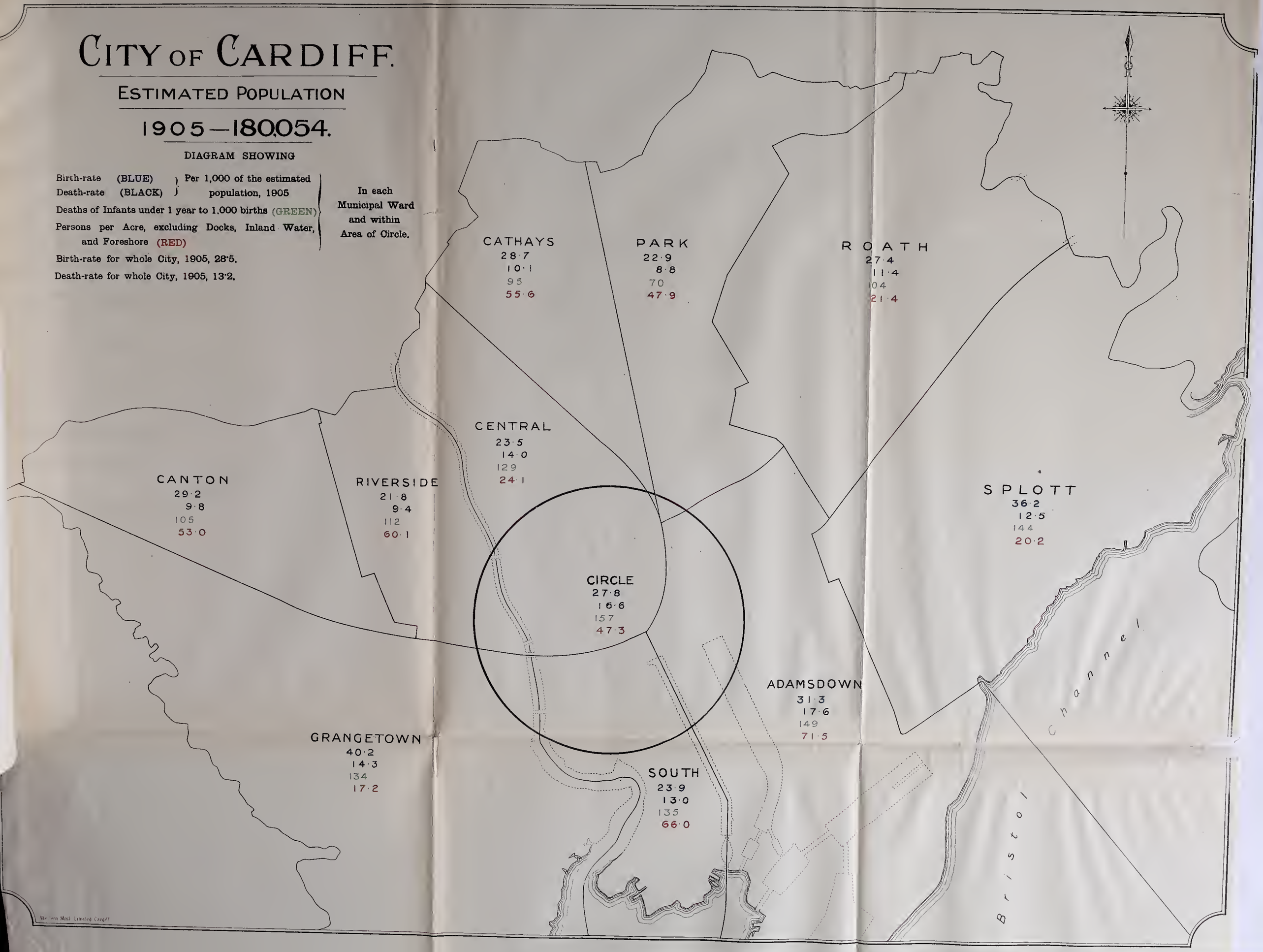
Deaths of Infants under 1 year to 1,000 births (GREEN)

Persons per Acre, excluding Docks, Inland Water, and Foreshore (RED)

In each Municipal Ward and within Area of Circle.

Birth-rate for whole City, 1905, 28·5.

Death-rate for whole City, 1905, 13·2.



Western Mail Limited Cardiff

CITY OF CARDIFF.

Chart showing death-rate per 1,000 of the population from Zymotic Diseases during the years 1878-1905.

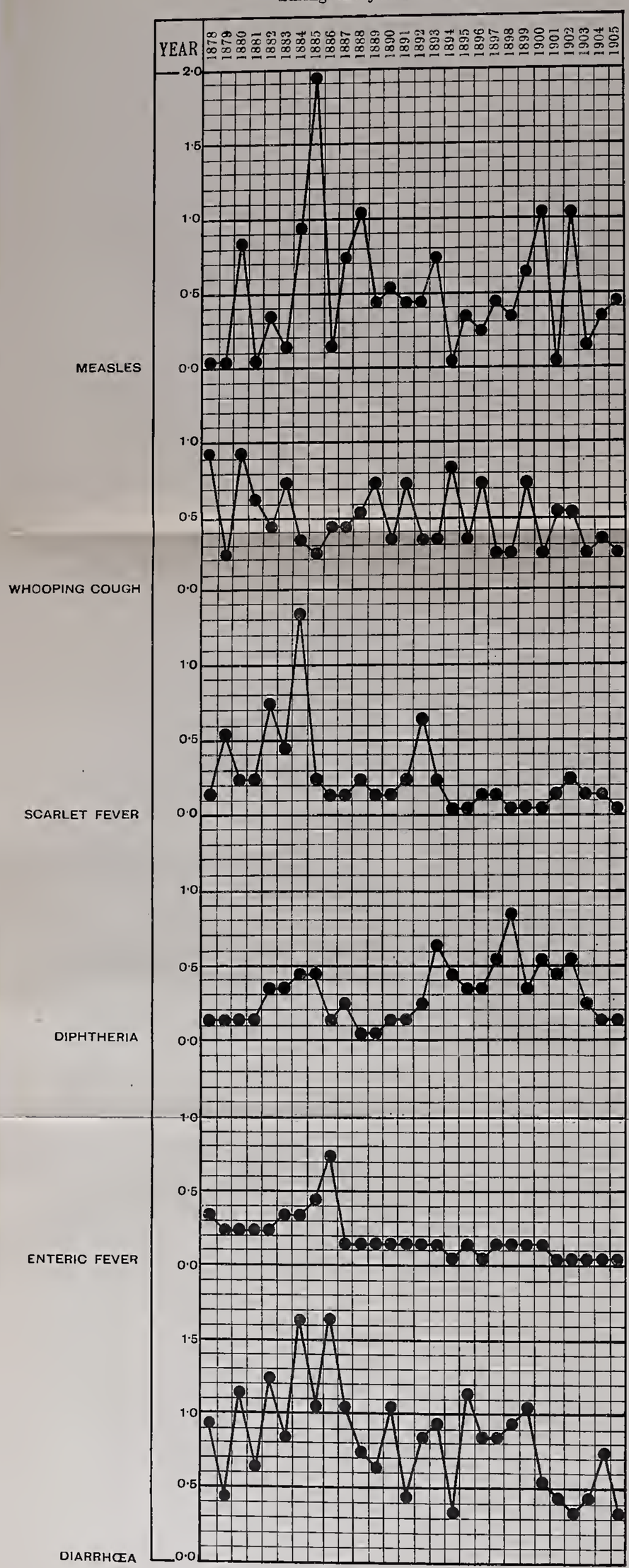
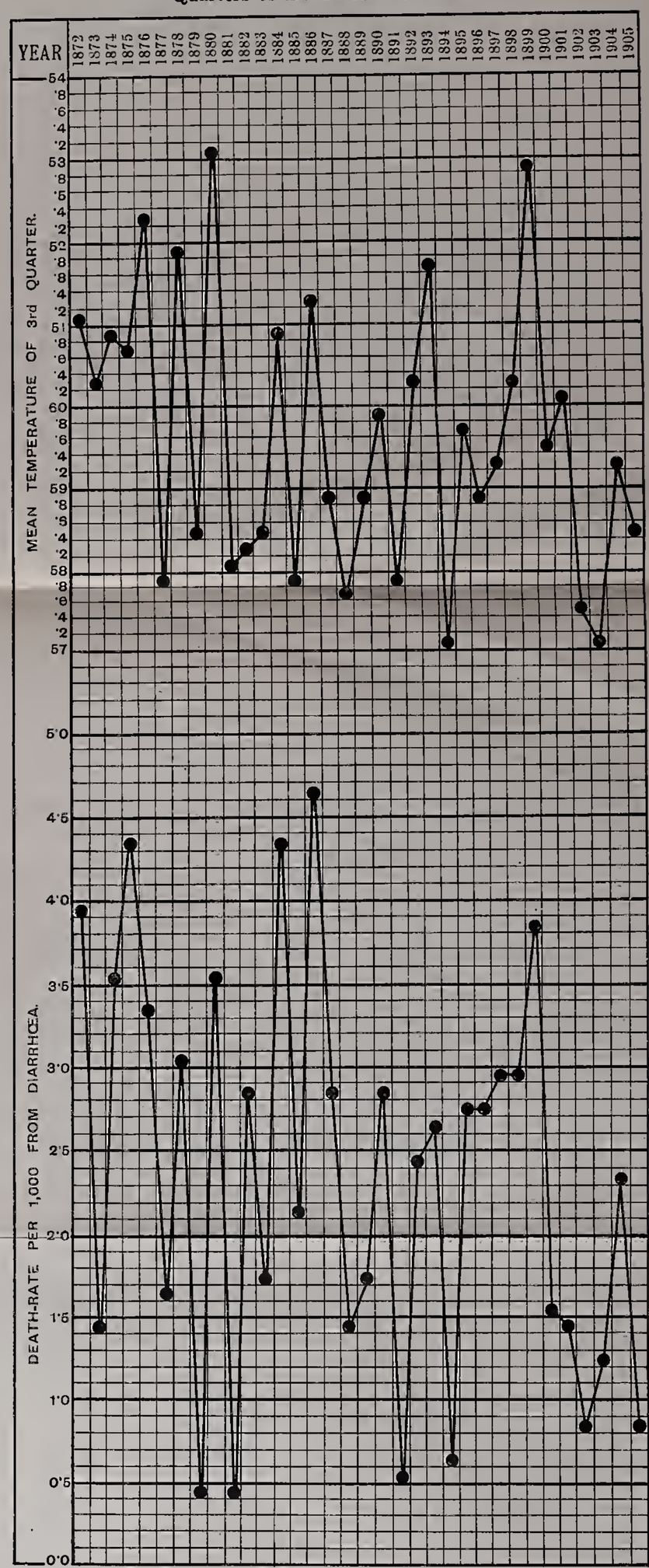
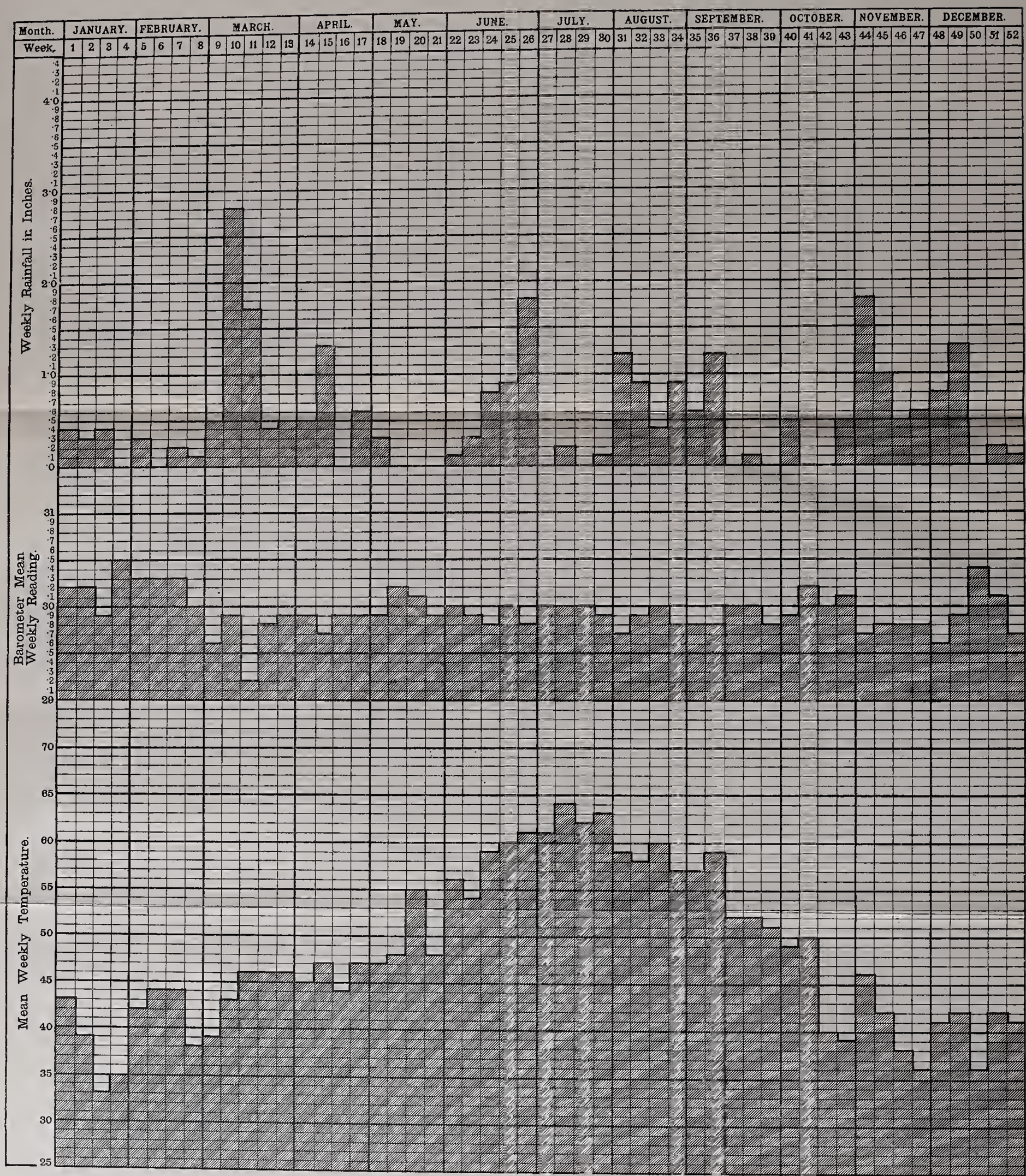


Chart showing the influence of temperature on the Diarrhœa death-rate during the Summer Quarters of the Years 1872-1905.



Meteorological Observations taken at Roath Park, Cardiff, during 1905.